ARMOR AT WAR SERIES

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ARMOR OF THE VIETNAM WAR

(2) ASIAN FORCES

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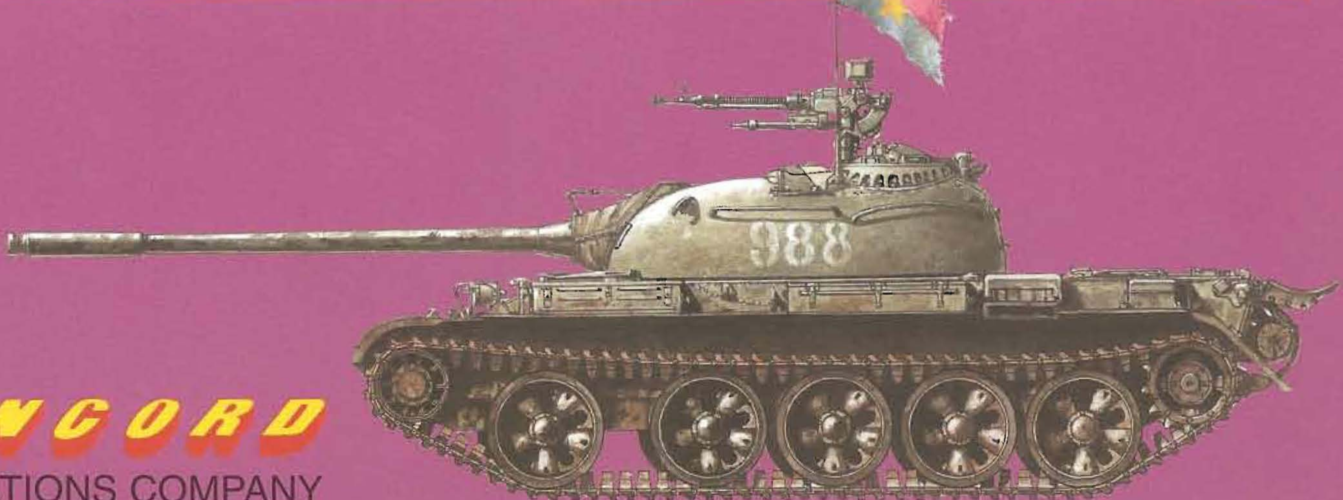

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INTRODUCTION

This book will focus particularly on the use of armored vehicles by the Asian armed forces during the Vietnam Conflict. These armored forces played a significant role in the war, but because they did so in the shadow of the more important US armored formations, they never attracted much attention from military historians. In the last years of the conflict, following the American withdrawal from Southeast Asia, the armored forces played an even more decisive role, leading the North Vietnamese lightning-fast invasion of South Vietnam. The development of these armored forces is reviewed here by detailing their fighting operations and the diversity of material they used.

Armor of the South Vietnamese Army

In 1950 the French created a small Vietnamese armored force. That year also saw the simultaneous establishment of an armor training section in the Vietnamese Military Academy at Dalat and a reconnaissance company equipped with M-8 armored cars, which were manned by French officers and Vietnamese enlisted men. In 1952, an armor school was set up at Thu Duc, near Saigon, to train the future officers of the Vietnamese armored force. The basic training was taught using 178 vintage pre-World War One French Panhard armored cars. Upgraded training was offered at the Saumur Armor School in France. The 3rd Armored Regiment (3° Régiment Blindé Vietnamien) became operational in 1953. The regiment had a headquarters company and three reconnaissance companies that were equipped with M-8 reconnaissance armored cars, M-3 half-tracks, M-3 scout cars, and M-8 howitzer transports. Four separate reconnaissance armored squadrons were also established, which were equipped with M-8 armored cars and M-3 scout cars. The Vietnamese armored units were used mainly for road security tasks and in support of anti-guerrilla operations.

By late 1955, after the partition of Vietnam under the Geneva Accords, the armored force of the Army of the Republic of Vietnam (ARVN) in the south was expanded and an armored regiment was deployed in each of the four military regions. A South Vietnamese Armor Command, which also served as the office of the Chief of Armor, was established on 1 April 1955. The equipment was inherited from the French, including additional M-8 armored cars and around 75 M-24 tanks. With the arrival of American advisors in early 1956, the existing ARVN armored units were reorganized according to US precepts as Armored Cavalry Regiments (ACRs), each comprising two reconnaissance squadrons equipped with M-8 armored cars, M-3 half-tracks and M-3 scout cars, and one squadron of M-24 Chaffees. The ARVN unit nomenclatures were retained from the French, whose designations were equated with fighting power rather than on the basis of personnel strength, the method used by the US Army. This meant that an ARVN "regiment" was equivalent in size to an American battalion or squadron.

From 1957 to 1962, the ARVN armored units played only a minor role in the conduct of the anti-guerrilla operations. Its squadrons were dispersed to assure security missions along the main roads, while the M-24 tank squadrons were trained to repulse an all-out conventional invasion from North Vietnam. By late 1961, the military situation in South Vietnam was deteriorating quickly and the United States reacted by furnishing considerable military aid.

Among the equipment delivered to the ARVN was a batch of M-113 Armored Personnel Carriers (APCs). The decision was made to introduce two company-sized units manned by rifle companies trained in mechanized infantry operations. Some 32 M-113s were delivered in April 1962 and were assigned to the 7th and 21st Infantry Divisions. Each company was organized into three rifle platoons with three M-113s in each platoon; a support platoon with four M-113s, three 60mm mortars, and three 3.5-inch rocket launchers; and a company headquarters section with two M-113s. All APCs were equipped with a .50 caliber machine gun, and eighteen .30 caliber Browning automatic rifles were distributed throughout the company.

As with almost any new organization, the units' first engagements reflected their lack of experience. These early operations provoked a great deal of unfavorable comment about the alleged inadequacies of the M-113. The situation improved, however, when the units acquired experience. Between 11 June and 30 September 1962, the two companies killed 502 Viet Cong and took 184 prisoners at a cost to themselves of four dead and nine wounded. This success was enhanced by the results obtained in September 1962 when the company attached to the 7th Infantry Division was sent to operate in the Plain of Reeds. Contrary to the prescribed rules, which indicated that the soldiers riding in the APCs had to dismount to fight, the ARVN commanders fought with their men firing from the hatches of the vehicles. This tactic transformed the M-113 into a real battle tank against the lightly armed guerrillas. This technique was later adopted by the Americans.

The success of the first two ARVN mechanized companies demonstrated the value of highly maneuverable, lightly armored vehicles in Vietnam. To supplement these two companies, the newly developed M-114 reconnaissance vehicles and additional M-113s were shipped to Vietnam. The ARVN Armor Command insisted that the M-113s be evaluated by armor personnel, however, and the APCs were sent to the Armored School at Thu Duc. Finally, it was decided to place all the APC units under the Armor Command. The first two M-113 companies were re-designated the 4th and 5th Mechanized Rifle Squadron of the 2nd ACR and assigned to the IV Corps Tactical Zone in the Mekong Delta.

The armored cavalry regiments supporting each of the four tactical zones were reorganized in late 1962 with the addition of one armored reconnaissance squadron and two mechanized rifle squadrons. M-113s for the new squadrons arrived in late 1962 and the squadrons became operational as they completed training at the ARVN Armor School. By May 1963, each of the four regiments had one squadron each of M-24 tanks, M-8 armored cars, M-114s, and two mechanized rifle squadrons with M-113s. The only exception was the 2nd ACR, which had no tank squadron but an additional M-113 squadron.

The reconnaissance squadron comprised a headquarters of two M-114s; three reconnaissance troops, each equipped with six M-114s in two three-carrier sections; and an additional element of 1/4-ton trucks. A total of 80 M-114s were acquired to equip the four reconnaissance squadrons that served in

1st to 4th Armored Cavalry Regiments. The M-114 quickly proved to be an unsound vehicle. Under powered, mechanically unreliable and with marginal amphibious capability, it proved unable to negotiate the same terrain as the M-113, and its resistance to mine damage was very weak. Even a moderate-sized mine would literally blow the vehicle in half. The failure of the M-114 led to its replacement by the M-113 by November 1964.

The surviving M-3 half-tracks were progressively withdrawn from service. Some of them served as support vehicles, modified locally with cranes, or as wreck and barrier removal vehicles. Others ended their career in security platoons for convoy escort missions. For this last task, the ARVN ordnance depots had also modified various vehicles with varying degrees of success. For example, several trucks were armored and equipped with .30 and .50 caliber machine guns. Some Canadian 15-cwt GM C15TA trucks of World War II vintage were also armored and turned into locally built armored reconnaissance cars. With the surviving M-3 scout cars, they served mainly with the service support units and regional and provincial forces. The ARVN also bought a small number of Canadian Ford Lynx Scout Car MK.IIs from Malaysia. They had served with the Commonwealth forces during the Emergency of 1948-60 and were also put into service for convoy escort duty.

New organizations, tactics and techniques, as well as new items of equipment were tested in combat throughout the country during 1963. Among the modifications made to the M-113s at this time was the fitting of a gun shield to the .50 caliber machine gun. The first gun shields were fabricated locally from whatever materials were at hand. The 2nd ACR made some of soft steel plating from the hull of a sunken ship, but later replaced them with plates from surplus armored vehicles, mainly M-3 half-tracks and scout cars. The 80th Ordnance Depot in Saigon quickly developed the idea and produced drawings and specifications for a standard gun shield. From 1964 these were fitted to all APCs before being issued to ARVN forces. ARVN units also mounted M1919 .30 caliber machine guns, some with shields but most without, on the sides of APCs to increase firepower. Many M-113s were fitted with machine gun turrets mounting twin .30 caliber guns in place of the .50 caliber. These cupolas were popular with ARVN troops, but the .30 caliber was inferior to the .50 caliber for penetrating earth and log emplacements, and the latter remained the standard weapons for APCs throughout the war. Other local modifications were also made with less success, like the mounting of an M-8 armored car turret with its 37mm gun on the M-113, or the installation of an 57mm recoilless rifle in place of the .50 caliber machine gun.

Unit reorganization and new equipment alone were not enough to bring about a change in the war. New tactics, better leadership, and improved training were needed to complement the increased firepower. When training lagged, overconfidence and poor leadership combined to teach some costly lessons.

During the battle at Ap Bac, sixty-five kilometers southwest of Saigon, in January 1963, ARVN armored forces performed poorly. A Viet Cong force of three reinforced companies was attacked by two ARVN infantry regiments, three Ranger companies and the attached 4th Mechanized Rifle Squadron from the 2nd ACR. The South Vietnamese also had plentiful artillery, aircraft and helicopter support. The heli-lifted troops landed on a flak trap and five helicopters were downed. The M-113s showed only a little aggressiveness to advance to secure a new landing zone. Finally, a paratroop battalion was dropped behind the M-113 squadron rather than on the eastern part of the Ap Bac village to complete the encirclement. During the night the Viet Cong guerrillas exfiltrated from the area. Several M-113s were lost in the face of the very stubborn defense of the enemy. Fourteen machine gunners were killed — losses that accelerated the installation of machine gun shields.

The ARVN armored units were not only engaged against the Communist guerrillas, but also in the changes of government in Saigon. On 1 November 1963, the 1st ACR and the vehicles from the Armor School at Thu Duc supported a coup that overthrew the Diem regime. The regular implication of the ARVN armored units in politics led their detractors to name them "coup troops". In the same vein, tanks were called "voting machines". In fact, the rapid expansion of ARVN armored units caused some consternation among the political establishment in Saigon, who knew from bitter experience that they only remained in power at the sufferance of the Armor Command. This situation persisted until the late 1960s when the ARVN armored corps officers became less political and the tank squadrons were used more effectively rather than being deployed in static defense at regional political centers.

In December 1963 two regiment-sized armored units were activated. The 5th Armor Group, later re-designated the 5th Armored Cavalry Regiment, and the 6th Mechanized Battle Group, later re-designated the 6th Armored Cavalry Regiment, were both assigned to the ARVN high command as a general reserve. Formed from the tank squadrons of the other units, the 5th Armor Group was in effect the first ARVN tank regiment. Later, in March 1964, two more mechanized rifle squadrons were formed at the Armor School. They completed their training in October. These additions made a total of fourteen operational mechanized rifle squadrons.

Most American armor advisors were impressed by the technical proficiency of the ARVN units. The singularly and most consistently praised characteristic of ARVN armored troops was their ability to perform individual and unit maintenance on vehicles and weapons; advisors commended them for keeping equipment operational with very limited support. Without recovery vehicles, armored units became extremely inventive. Since the supply system of the South Vietnamese Army was universally poor, the armored troopers became adept at scrounging replacement parts. Squadron and regimental mechanics performed such tasks as internal repair of starters, generators, radiators, and carburetors, maintenance normally accomplished by ordnance units with the US Army. Deprived of aluminum welding, troops repaired holes and cracks in the hull of APCs with wooden pegs and cement. Banana stalks and ponchos were used to mend radiators in water-cooled vehicles. Despite an inadequate supply system, the lack of turret or support unit mechanics, and with the only replacement vehicles being in Saigon, units still consistently managed to field over 90 percent of their equipment. Combat maintenance units remained at a high level throughout the conflict.

Even with additional forces and equipment, however, the combat record of the ARVN armored units in 1964 was still uneven. One battle on the Plain of Reeds on 3 and 4 March 1964 ended in a resounding victory for the South Vietnamese and the capture of over 300 Viet Cong. In contrast, on 28 December 1964 the 9th Viet Cong Division seized the town of Binh Gia, sixty-five kilometers east of Saigon. During a battle that lasted several days, the ARVN Ranger and Marine battalions were severely beaten. The armored relief forces were ambushed and they too suffered heavy casualties. This battle was significant for both sides since it marked the general offensive launched by the Communist forces.

Almost at the same time that the Viet Cong began to appear in division-sized units. American forces began deploying in Vietnam. For the next seven years, US forces and their armored units would play the main role in the fighting, relegating the ARVN into so-called pacification missions.

In January 1965, the old M-24 Chaffees inherited from the French were replaced with the M-41A3. Five squadrons were equipped and trained by the end of 1965. Although the first plan was to turn in the old M-24s, the relics became pillboxes at installations throughout South Vietnam, except for a dozen tanks under control of the South Vietnamese Air Force (VNAF) at Tan Son Nhut. In reality, this VNAF armored squadron was put under the direct command of Vice Air Marshall and Prime Minister Nguyen Cao Ky as a counter-coup force. The M-41A3 proved an excellent choice and was popular with the ARVN. Its combination of rugged simplicity, mechanical reliability and responsive handling made it a very battle-worthy machine. US sources indicated that more than 506 M-41A3s were delivered to South Vietnam throughout the war.

The ARVN armored units continued to expand and were sometimes engaged in important operations. From 19 to 27 October 1965, the 3rd ACR, along with some Rangers, battled through to the relief of the Plei Me Special Forces camp southwest of Pleiku. Although ambushed en route by a PAVN (People's Army of Vietnam) regiment, the task force reached the camp, established a perimeter and stood off a heavy attack. It then counterattacked and drove away the North Vietnamese forces. Nevertheless, the armored troops demonstrated little aggressiveness, content instead to stand and fight as if they were in pillboxes. Coordinated action between tanks, APCs and Rangers was almost non-existent. Leadership and control was still a long way from acceptable standards. Maintenance continued to be a bright spot, though, with all fifteen tanks returning from the fight.

Beginning in 1966, an extensive training program took place to improve the fighting standards of the ARVN armored units. The main obstacle that the US advisors had to overcome was the misuse of the armor. The ARVN senior officers either ignored or did not understand the capabilities of an armored force. The general situation and the effectiveness of the armored forces were only corrected in early 1968.

Plans for the ARVN for the period 1965-1966 called for the formation of one V-100 armored car squadron and ten separate armored car troops and the replacement of units equipped with M-8s and older obsolete vehicles. Three of these troops completed training in May 1965, but structural flaws found in the V-100 delayed their use for six months. Four new Armored Cavalry Regiments were created in 1966: the 7th ACR at Dong Ha, the 8th ACR at Ban Me Thout, the 9th ACR at Soc Trang and the 10th ACR at Cu Chi.

In the summer of 1967, it was decided to increase the number of M-113s in ARVN units from three to five, and the total number per squadron from 15 to 22 without increasing the number of soldiers. Among other approved proposals was one to disband armored car squadrons and to issue M-125A1 81mm mortar carriers. Regimental headquarters retained their armored car platoons with the V-100s. An M-113 hydraulically operated vehicle-launched bridge and an M-113 dozer blade kit were also added to the ARVN armor's table of organization.

The newly reorganized units fought several conclusive battles. During Operation "Cuu Long 15" in March 1966, the 6th ACR encircled a Viet Cong battalion at Moc Hoa and killed 200 of the guerrillas. On 16 September 1967, the 4th ACR repulsed an important night assault against the city of Quang Ngai. But it was during the infamous Tet Offensive, launched on 29 January 1968, that ARVN armor played a decisive role. Along with American armored units, ARVN armored cavalry regiments counterattacked to recapture the lost cities in bitter house-to-house fighting. The 3rd ACR broke up an attack against Quang Ngai in a two-day battle. The same unit later moved to Pleiku to withstand Viet Cong assaults for five days. At Ban Me Thout, the 8th ACR fought a three-day street battle. Encountering ambushes on the way, the 1st ACR traveled 100 kilometers (62 miles) in eleven hours to relieve the city of Phan Thiet.

At Saigon, the 10th, 5th and 1st ACRs fought various battles around Long Binh, Bien Hoa, Ho Nai and Duc Hoa. At Thu Duc, a cavalry task force of students and faculty from the ARVN Armor School defeated the enemy in bitter street fighting. Inside the capital itself, ARVN M-41A3 tanks and M-113 APCs fought tenaciously with the help of Rangers to clear out the Communist-occupied sections of town.

In the Mekong Delta, the provincial capital of My Tho was reoccupied after a three-day battle. The 6th ACR, along with ARVN and US Army infantry, killed 800 enemy troops. The 2nd ACR fought its way fifteen kilometers (nine miles) from their base camp to the city of Phu Vinh. Using massive firepower and without the aid of infantry, the cavalrymen destroyed the enemy resistance in the city in less than twenty-four hours. Later the regiment was redirected to retake Vinh Long after five long days of urban fighting.

Along the Demilitarized Zone (DMZ) that separated the two Vietnams, at Dong Ha and Chu Lai, the 4th and 7th ACRs fought with US Marine Corps armor battalions to clear out many ambushes set up by the PAVN along the main roads leading to Da Nang and Hue. At Hue, the old Imperial Capital, ARVN and US Marines fought the longest battle of Tet, which lasted twenty-six days. The 17th ACR, reinforced by elements from the 4th and 7th ACRs, supported the infantry assaults in a thickly populated area. Tank crews were so shaken by multiple hits from rocket-propelled grenades (RPG) - as many as fifteen on some tanks - that crews were changed at least once a day. Armored units were in constant demand and often expended their vehicle ammunition loads in a few hours.

The Tet Offensive improved the confidence of the ARVN troops in the very fighting that was designed to persuade them to desert to the enemy. The ARVN Armor Command proved its value in combat and was further expanded. Seven more armored cavalry regiments were set up during the 1968-1969 period. The first one was the 11th ACR at Dong Ha, followed by the 12th ACR at Can Tho, the 17th ACR at Hoi An, the 14th ACR at Kontum, the 15th and 18th ACR at Bien Hoa, and the 16th ACR at Long Xuyen.

In 1969, the various armored cavalry regiments deployed within a Military Region (the new name of the Corps Tactical Zone) were regrouped within an armor brigade. This brigade would be placed under the control of the Military Region commander as a mobile reserve. *The IV Armor Brigade was the first then* created at Can Tho and was attached to Military Region 4. It was followed by the I Armor Brigade at Da Nang in Military Region 1. The year 1970 saw the creation of the III Armor Brigade at Bien Hoa in Military Region 3. Finally, the II Armor Brigade was set up at Pleiku in 1971 in Military Region 2.

During 1969, the ARVN armored regiments continued to support pacification operations, often operating with the regional and popular forces. In February 1970, the I Armored Brigade conducted mobile independent operations along the sea in the northern part of Military Region 1. Controlling up to two armored cavalry regiments, Rangers, and territorial forces, the brigade roamed over the area for two months and succeeded in destroying three enemy battalions. Almost 900 Viet Cong and PAVN were killed or captured, while the brigade lost sixty-eight men. For success in its first large-scale operation, the ARVN I Armored Brigade was awarded a US Presidential Unit Citation.

With the gradual withdrawal of US forces, under the policy of "Vietnamization", the ARVN armored units were destined to play the main role in future combat. On 14 April 1970, the ARVN III Armored Brigade launched Operation "Toan Thang 41", a three-day operation into the so-called Angel's Wings, an area in Cambodia long used by the PAVN. This led to the capture of several logistical bases and the killing of 378 enemy troops.

On 20 April 1970, it was IV Armored Brigade's turn, along with three armored cavalry regiments and three Ranger battalions, to attack into the Crow's Nest. Large quantities of equipment and weapons were seized. On 28 April, the 2nd and 6th ACRs attacked again into the Crow's Nest and diverted enemy attention from the larger attacks in Military Region 3.

The major attack into Cambodia was a series of operations jointly planned and conducted by South Vietnamese and American units. When it began, Operation "Toan Thang 42", the ARVN portion, was probably the best planned South Vietnamese operation to that date. The operation was planned so that US and ARVN forces were separated by well-defined boundaries, although they attacked simultaneously with the ARVN *forces forming most of the eastern pincer.*

Operation "Toan Thang 42" began on 29 April when the three task forces entered the Cambodian Svay Rieng province. All the units from the III Armored Brigade were committed, and they reopened Route 1. On 2 May 1970, the IV Armored Brigade also attacked into the Parrot's Beak to support an encirclement of the area by the III Armored Brigade. The object was to trap the enemy with elements of nine armored cavalry regiments. The advance of the IV Armored Brigade encountered heavy resistance during the afternoon. The vehicles from the 2nd, 6th, 9th, 12th and 16th ACRs, some 250 M-113s, lined up abreast at 25-meter (27-yard) intervals and, with infantry support, attacked on a 6-kilometer (3.7-mile) front on a flat terrain. The breadth of the attack overwhelmed all resistance. The two ARVN forces linked up early in the afternoon of 4 May. Over 400 of the enemy were killed, and tons of ammunition and weapons were captured.

The ARVN task forces then sped north and secured Kompong Trach. On 17 May, ARVN M-41A3s and M-113s reached Route 15, half-way to the besieged town of Kompong Cham. In the meantime, the 11th ACR attacked the rubber plantation of Memot and captured 21 American-made 2 1/2-ton trucks of World War II vintage. The 11th ACR continued to advance in the Fishook area in late May.

On 23 May 1970, the two ARVN armored brigades attacked toward Kompong Cham to relieve the siege laid by the 9th PAVN Division. The 5th, 15th and 18th ACRs inflicted a severe beating on the 9th PAVN Division in the rubber plantations of Chup. In mid-June, the PAVN 271st Regiment re-entered the Chup plantation and cut Route 15. For three days, repeated attacks were launched by the 15th and 18th ACRs, which finally cleared the road.

The ARVN forces of Military Region 3 periodically returned to Cambodia during the next eighteen months. Most of their operations were hit and run and had limited objectives. One operation, "Thoan Thang 01-71", which started on 4 February 1971, ended in failure. The ARVN task force was quickly surrounded by superior enemy forces on Route 13. The III Armored Brigade was ordered north to link up with the isolated task *force, which attacked south hoping to* pass trough the enemy positions. This ordinary withdrawal quickly turned into a rout, with the ARVN losing a dozen M-41A3s and M-113s. The collapse of command under stress was to plague the ARVN forces up to the end of the war.

Encouraged by their Cambodian experience, the ARVN decided to move into Laos near the DMZ to sever the Ho Chi Minh Trail. The operation was codenamed "Lam Son 719". The main objectives were the towns of Aloui and Tchepone, and the main progression axis was Route 9. The I Armored Brigade began the ground attack on 8 February 1971. Unfortunately, ARVN intelligence had underestimated the PAVN strength in the area and the initial drive was conducted only by the 11th and 17th ACRs, which had fewer than seventeen M-41A3 tanks. Route 9 turned out to be in very bad shape and in need of urgent repair by the engineer troops. Nevertheless, on 10 February the ARVN forces captured Aloui, but further advance was bogged down in the face of PAVN resistance.

The I Armored Brigade was then redirected to support the Landing Zones (LZs) north of the town. Despite armored support, LZ Ranger North and South were abandoned. The PAVN then launched a series of infantry/armor assaults against LZ 31. On 19 February, the 17th and 11th ACRs reached the besieged position and engaged in combat for the first time with PAVN armor. By day's end the M-41A3 tanks had claimed no less than six T-54s and sixteen PT-76s, with no loss incurred by the ARVN tankers. Six days later the ARVN was forced to evacuate the position. During the retreat toward Aloui, the PAVN kept up constant pressure, launching several armored attacks. On 27 February, the 17th ACR pushed south and destroyed an additional twelve PT-76s and three T-54s, losing three M-113s in the process. On 1 March, during a day-long battle, the regiment claimed another fifteen enemy tanks while losing six M-113s.

The tanks and APCs eventually reached Aloui and dug in around the town. There they were reinforced by piecemeal armored squadrons sent there from the reserve of Military Region 1. In the meantime, a helicopter assault had seized Tchepone further north. Yet even this failed to ease the pressure on Aloui, and no troops could link up with those at Tchepone. Finally, a withdrawal was ordered along Route 9, where the PAVN had set up a series of ambushes with five infantry divisions and two tank battalions.

Five tank squadrons and six cavalry squadrons, some 75 M-41A3s and 130 M-113 APCs, were committed to keeping Route 9 open. On 19 March, it was the I Armored Brigade's turn to withdraw. At a stream crossing between Aloui and LZ Alpha, the unit suffered a heavy ambush. Four M-41A3 tanks were hit in the middle of the stream, which then blocked the route. The 11th ACR tried to bypass the brigade, but soon all order in the armored column was lost. The retreat quickly turned into a rout, and the troops abandoned their vehicles to flee toward the South Vietnamese border. Nearly all the equipment of the I Armored Brigade was lost or abandoned.

After this staggering defeat, the ARVN armored units were refitted and trained with new equipment. In 1971, a new armored cavalry regiment, the 19th ACR, was created at Pleiku. Some M-42A1 Dusters were also delivered to form artillery air defense battalions along with batteries of truck-mounted M-55 quad-.50 caliber machine guns. The first tank regiment, the 20th Tank Regiment, was also set up at Quang Tri and attached to the I Armored Brigade. The unit inherited 54 M-48A3 tanks from the departing US units, but lacked bridging equipment and M-88 recovery vehicles. The unit had just ended its training when it became engaged in an effort to repulse an all-out PAVN invasion.

With the last US ground units gone, the Communist forces launched an all-out invasion of South Vietnam on three fronts. Three infantry divisions and two armored regiments attacked across the DMZ on 30 March 1972. The ARVN forward firebases were quickly overrun. The 7th and 11th ACRs supported some Marine units that continued to resist around Dong Ha on the bank of the Cam Lo River. Then it was decided to commit the new 20th Tank Regiment to try to stop the PAVN offensive. On 2 April, a squadron from the 20th Tank Regiment engaged a PAVN armored column in a long-range shooting match west of Dong Ha, destroying two T-54 and nine Type 63 tanks, with no losses of their own. On 9 April, the 20th Tank Regiment, together with two squadrons from the 17th ACR, faced another PAVN assault and destroyed sixteen more T-54s and captured a running Type 59, again without losing any M-48A3s.

In an effort to break the deadlock, the PAVN brought up additional men and material. The ARVN also brought up all the I Armored Brigade to the front line with the 4th, 11th, 17th ACRs and the 20th Tank Regiment. The 18th ACR sent by Military Region 3 was also directed to Dong Ha. On 23 April 1972, the PAVN employed wire-guided AT-3 anti-tank missiles for the first time in the war. Three M-48A3s were destroyed and other vehicles were damaged. Constant artillery attacks also began to extract its toll among the ARVN armored vehicles.

On 27 April, the PAVN opened up a new offensive against Dong Ha, and the ARVN was forced to retreat. This withdrawal was carried out without panic, but a lack of supplies and spare parts caused some tanks and APCs to be abandoned. After five days, the I Armored Brigade arrived at Quang Tri and dug in. This town was also obliged to be abandoned, and the ARVN armored units continued their orderly withdrawal to the south. The month-long battle drained both sides, and the front once again stabilized. In the retreat, the I Armored Brigade lost most of its equipment, notably the 20th Tank Regiment, which lost all of its Patton tanks. Some were lost to rocket or artillery, but the majority either broke down, ran out of fuel or were stranded when bridges were destroyed. In return, the 20th Tank Regiment claimed over 90 enemy tanks. Nevertheless, it was a high price to pay since nearly all of the I Armored Brigade was lost.

The second PAVN offensive was aimed at the city of Kontum in the Central Highlands. The II Armored Brigade advocated the mobile use of its units, but the local commanders deployed the 14th ACR and the tank squadron of the 19th ACR into static positions at Ben Het, Dak To II and Tan Canh. On 23 April 1972, this last outpost was attacked by PAVN infantry armed with AT-3 missiles. Within moments the M-41A3 tank troop deployed there was annihilated. It was followed by an assault of 18 T-54s, which routed the local defenders. Another tank assault took place against the other outposts and Kontum itself. The battle lasted for more than three months, but the ARVN infantry held its ground with the aid of air strikes and the 8th ACR. In July 1972, the II Armored Brigade, with the 3rd, 14th, and 19th ACRs, counterattacked and relieved the siege.

The third PAVN offensive took place against the provincial capital of An Loc, near Saigon, after capturing Loch Ninh. The ARVN III Armored Brigade lost many M-41s and M-113s from the 5th and 10th ACRs. In August, the III Armored Brigade fought its way up Route 13 to relieve the town, destroying some remaining PAVN T-54s that had escaped air strikes. The brigade was able to use the new 22nd Tank Regiment equipped with M-48 tanks that was set up near Saigon.

In Military Region 1, the ARVN also launched a counterattack from Hue to retake Quang Tri. The I Armored Brigade was reorganized and re-equipped for this task. The assault began in early September with an amphibious operation launched by a Marine brigade with a newly created Marine armored battalion equipped with LVTP-5s and M-113s. The Marines landed behind the PAVN lines and were soon linked up with the tanks and APCs from the 11th, 17th and 18th ACRs of the I Armored Brigade. With the resurrected 20th Tank Regiment leading the way, Quang Tri was retaken on 16 September 1972.

On 28 January 1973, after the cease-fire, the ARVN armored formations were re-equipped with new vehicles delivered by the Americans. A third tank unit, the 21st Tank Regiment, was created at Pleiku. With the vehicles maintained in reserve, the ARVN Armor

Command now had a strength of around 450 M-41s and M-48s, 200 M-113s, and 450 other tracked vehicles, including the M-88, M-548 and M-578 support vehicles, V-100 armored cars and M-42 self-propelled AA guns. The III Armored Brigade also received a small number of TOW anti-tank missile launchers mounted on M-113s.

The end of US support in 1975 had significantly reduced the effectiveness of the ARVN armored formations. The PAVN final offensive began on 7 March at Ban Me Thout, where the local 8th ACR was overwhelmed in two days. Then the South Vietnamese government made the disastrous decision to evacuate all of Military Region 2. The PAVN intercepted the retreating column, which had mingled with civilian refugees, on Route 7B and routed the entire II Armored Brigade. When the survivors reached the coastline city of Thuy Hoa, the ARVN had lost 300 tanks and APCs.

The PAVN then attacked Quang Tri, isolating Hue. The I Armored Brigade was prepared to defend the city when President Thieu issued the order to abandon Hue and evacuate toward Da Nang. As the troops retreated, mingling with one million refugees, they received orders to go back to Hue. These conflicting orders resulted in confusion, and the ARVN units began to disintegrate. On 25 March, Hue was taken, and Da Nang was occupied on 30 March. The PAVN had destroyed or captured 138 armored vehicles and had occupied all of the northern part of South Vietnam.

The PAVN offensive was now directed toward Saigon itself. The little ARVN armor that was left was abandoned without fuel along the coastal road. At Xuan Loc, the ARVN tried to stop the Communist offensive. For twenty days the 18th Division and a parachute brigade, supported by the III Armored Brigade, put up a spirited fight. M-48s from the 22nd Tank Regiment engaged the Communist armor in successful combat, claiming 50 enemy tanks. Eventually Xuan Loc was evacuated. The ARVN tanks maintained a corridor at Dong Nai to allow the troops to withdraw. Encountering little resistance from the remaining ARVN units, the PAVN armored columns entered Saigon on 30 April 1975.

Armor of the North Vietnamese Army

The People's Army of Vietnam (PAVN) was founded in August 1945, with most of its equipment being obtained from the local defeated Japanese forces. However, no armored vehicles were put into use by the PAVN, which was soon forced to fight a guerrilla war against the French. In 1952, a small number of PAVN officers were sent to study armored warfare operations at Wu Ming in China. However, these troops were not used to set up armored units. Instead, they were sent back to Vietnam to serve as specialists to develop anti-tank tactics and to create special anti-armor units. At Dien Bien Phu the PAVN captured at least two M-24 tanks that were still functioning and used them for propaganda purposes.

The PAVN was reorganized and expanded during the period between 1955 and 1960, and new anti-armor artillery and armored units were created. Fearing an invasion from South Vietnam, the PAVN at first reinforced its anti-armor assets and created several battalions equipped with Soviet 57mm guns and German PAK 40 75mm guns. In 1956, an armored company was also set up, equipped with M-8 armored cars and M-3 half-tracks. The origin of these vehicles is unknown; they could have been captured from the French or delivered by China. These armored vehicles participated in a military parade at Hanoi in 1956 and were later assigned to security platoons deployed around VPAF air bases.

The PAVN set up its first tank unit, the 202nd Armored Regiment, on 5 October 1959. The numerical designation of the regiment was derived from the 202 cadre members who had been trained in China and the Soviet Union. The unit was initially equipped with some 35 T-34-85s and 16 SU-76s. In 1964, the 202nd Armored Regiment was expanded to include three battalions, which were equipped respectively with T-54, T-34-85, and PT-76 tanks and SU-76 self-propelled guns. An Armored Forces Directorate was created in the summer of 1965 to coordinate the use of the armored units and to define and employ doctrine.

Having only about one hundred tanks in service, the PAVN did not advocate their use in mass. Its doctrine stated that armor would be employed during an attack, when feasible, to reduce infantry casualties. However, only the minimum number of tanks required to accomplish the mission would be used. Battle drill dictated that lead tanks were to advance firing and be supported by fire from other tanks and from artillery. Close coordination between tanks and supporting infantry was stressed as a key to success in the attack. Because the North Vietnamese lacked air power, they placed strong emphasis on camouflage training in armor units. Facts later proved that armored battalions were able to move great distances without being detected.

As early as 1962 cadres from the 202nd Armored Regiment had joined the staff of the Central Office for South Vietnam (COSVN) as armor advisors. They asked for a reinforcement of infantry anti-tank weapons, and in 1966 the number of RPG-2s (B-40s) was increased in each PAVN infantry company from three to nine. Each infantry regiment also received an allocation of eighteen RPG-7s (B-41s). The Viet Cong troops also replaced their bazookas and 57mm SR guns with RPG-2s and 75mm SR guns. Most of the losses inflicted on US and ARVN armor during the conflict was due to these infantry rocket launchers and mines.

It was only in 1967 that the 202nd Armored Regiment sent two independent companies of PT-76 amphibious tanks to be posted near the Laotian border. They were intended to support an attack against one of the US and ARVN special forces observation outposts that overlooked the Ho Chi Minh Trail. In December 1967, one of the PT-76 companies was sent to the Plain of Jarres in Laos, while the remaining company was put under the control of the 198th Armored Battalion with a BTR-50PK armored personnel carrier (APC) company. The unit was then attached to the Khe Sanh- Road 9 Front.

On 26 January 1968, the PT-76s from the 3rd Company of the 198th Armored Battalion attacked the Ta May outpost in support of the 24th Infantry Regiment. The little ARVN garrison was quickly overwhelmed in this first combat against the PAVN armored forces. Encouraged by this success, the PAVN redirected the battalion against the Lang Vei Special Forces camp near the besieged garrison of Khe Sanh.

On the night of 6 February 1968, 16 PT-76s attacked the Long Vei position, which was held by over 500 troops. It was the first time that US soldiers faced Communist armor in Vietnam. Despite stubborn resistance, the PAVN advanced methodically, destroying bunkers at point-blank range. Throughout the night and far into the next day the resolute defenders held on, as their own artillery fire and air strikes deliberately pounded the position. The few survivors eventually broke out and fled to Khe Sanh. The North Vietnamese lost six PT-76s at Lang Vei. The PAVN Armor Command reported that the action was a great success. Despite enemy air strikes, the attack adhered strictly to the doctrine regarding the use of armor and contributed in reducing infantry casualties with a one-for-six ratio in favor of the PAVN.

US forces encountered North Vietnamese tanks a few other times in South Vietnam. A PT-76 was knocked out by a 90mm SR gun during an attack on a Special Forces camp at Bu Dop in 1968. Another was located by a helicopter on 10 February 1968 and destroyed by a tactical air strike during Operation "Pegasus", the relief of Khe Sanh Combat Base.

After the Khe Sanh battle, the 198th Armored Battalion was re-deployed near the DMZ, along the Ben Hai River. It was there that one of the PT-76s was surprised while crossing the river. It was destroyed at extreme range by an M-48 of the 3rd US Marine Tank Battalion. On the night of 3 March 1969, the 4th Armored Battalion from the 202nd Armored Regiment attacked the Ben Het Special Forces camp. The attack was carried out by a dozen PT-76 tanks and an equal number of BTR-50PK APCs in order to destroy the camp's battery of M-107 SP guns. One of the leading PT-76s struck a mine and was immobilized, but it continued to fire with its 76mm gun. The other armored vehicles were then engaged by a platoon of M-48s from the 1st Battalion, 69th Armor and two M-42s. The unexpected presence of Patton tanks went unnoticed by the North Vietnamese, who decided to retreat after losing two PT-76s and one BTR-50PK. These were the only occasions that American tanks clashed with PAVN armor. At that time, US intelligence sources estimated that the PAVN fielded about 60 T-54s, 50 T-34-85s and 300 PT-76s. A small number of SU-76s was also retained for training purposes. The APCs in use included the wheeled BTR-40 and BTR-152 and the tracked BTR-50.

The PAVN then decided to engage its armor in Laos. In June 1968, a force of ten PT-76s supported an infantry assault that led to the fall of Muong Suoi. In March 1969, the 195th Independent Tank Company was attached to Front 959, which controlled operations in the Plain of Jarres. The company operated 25 PT-76s and had an attached platoon of BTR-40 armored cars. In August 1969, the Laotian Government forces launched Operation "Kou Kiet" and recaptured most of the Plain of Jarres. The offensive was preceded by an intense interdiction campaign by the USAF, which cut the unit off from its supply sources. Suffering from a lack of fuel, the crews were ordered to abandon their tanks and to sabotage them before departing. This was the worse defeat suffered by the PAVN Armor Command up to this point.

In October 1969, the 195th Independent Tank Company was re-equipped and led a counter-offensive, which retook all lost ground. On 17 February 1970, the PAVN continued its advance and attacked Lima Site 22, a Hmong outpost, but the four PT-76s engaged in the assault were lost to mines. A week later, another armored thrust smashed through the outpost.

In 1971, in the Boloven Plateaux in southern Laos, the PAVN deployed the 3rd Independent Tank Company, which was also equipped with PT-76s. The unit supported the operations around the city of Attopeu. The armored units in Laos were recalled into the area of Tchepone to counter Operation "Lam Son 719", the ARVN offensive to severe the Ho Chi Minh Trail. The 202nd Armored Regiment also reinforced the PAVN 70B Army Corps with two additional tank battalions equipped with T-54 tanks. On 19 February 1971, the North Vietnamese armored assault against the LZ 31 was repulsed with heavy losses. The ARVN M-41s proved to be superior in tank-versus-tank fighting. A week later, after several assaults, three T-54s finally gained the summit of the position, forcing the defenders to withdraw.

The PAVN tanks now attacked the remaining ARVN positions around Aloui and engaged in several other battles with the South Vietnamese I Armored Brigade. PAVN T-54s and PT-76s took two South Vietnamese Marine positions despite the fact they were atop hills of 550 meters (610 yards) and 543 meters (593 yards) in height, respectively. In fact, during this campaign the North Vietnamese armor succeeded in operating in rugged and mountainous terrain, while the ARVN tanks, which were forced to retreat along the narrow Route 9, were routed. At the completion of the operation, the ARVN claimed 30 PAVN tanks destroyed and the loss of only 6 M-113s. Air strikes claimed another 60 tanks.

In 1971, the PAVN reorganized and expanded its armored forces. A new regiment was set up in November — the 201st Armored Regiment. It was followed by the 203rd Armored Regiment with the 171st, 198th and 297th Armored Battalions. The old 202nd Armored Regiment was also reorganized along with the 4th, 177th and 397th Armored Battalions.

Each armored regiment was organized with three battalions, usually two tank battalions and an APC battalion. The armored regiment rarely used standardized equipment. It was not unusual to have in the same regiment one battalion equipped with T-54 tanks, another with PT-76s and a third with BTR-50 APCs. Each tank battalion had a strength of 38 vehicles; each APC battalion consisted of between 30 to 35 vehicles.

Until 1975 the armored battalion usually operated independently. Each tank battalion had three companies, usually equipped with the same equipment. However, there were exceptions. For example, the 195th Tank Battalion had two companies equipped with Type 59 tanks and one company with T-34-85s. Another example was the 2nd Armored Battalion, which had one company of Type 59 tanks and two companies of K-63 APCs. In fact, the PAVN armored formations exhibited great flexibility in terms of organization and equipment. The strength of a specific unit was then tailored to a specific task or tactical situation, and even to the availability of vehicles. This situation, nevertheless, caused more logistical problems.

The Soviets and Chinese delivered additional equipment to the PAVN in 1970 and 1971, including new T-54B, PT-76, Type 59 and Type 63 tanks. China furnished most of the APCs in service in the form of rugged and reliable K-63. By January 1972, the PAVN began to deploy its armored units in preparation of the

Nguyen Hue Offensive. The 171st Tank Battalion from the 203rd Armored Regiment was sent down the Ho Chi Minh Trail to a location east of Tay Ninh, near the Cambodian border. The 38 heavily camouflaged T-54Bs of the unit drove themselves over 900 kilometers (560 miles) in two months. It was thus far the longest deployment of PAVN armor. En route, the battalion witnessed thirty air strikes, but none of its tanks were hit.

The main thrust of the PAVN armor occurred across the DMZ on 30 March 1972, when the 201st and 202nd Armored Regiments supported the attack of five infantry divisions against the ARVN Military Region 1. The two regiments were equipped with Type 59, Type 63 and T-54 tanks and K-63 APCs. The two units were temporarily halted by the ARVN I Armored Brigade at Dong Ha, but they finally pressed on and reached the South Vietnamese defensive lines north of Hue. In September, an ARVN counterattack pushed the PAVN back to Dong Ha. Thanks to effective air strikes and the ARVN tankers, who were better trained in long-range shooting, the two PAVN regiments suffered heavy losses.

In the Central Highlands, the ARVN forces deployed around Dak To and Tan Canh were routed by the 203rd Armored Regiment, which was equipped with T-54, T-34-85 and PT-76 tanks. Another assault against Ben Het on 9 May failed when three PT-76s were destroyed by TOW missiles launched from a US Army trial gunship helicopter unit. On 13 May, without artillery preparation, two PAVN regimental task forces, supported by tanks, attacked Kontum from Route 14. Two other armored assaults took place in the northeastern and southern part of the town. The ARVN infantry fought tenaciously, destroying a dozen tanks with M-72 LAW rocket launchers. Two other armored assaults, which took place on 26 and 27 May, succeeded in taking the northern part of town. Continuously attacked by TOW-armed helicopters and fighter bombers, the PAVN were pushed back on 31 May. By mid-June, when the siege of Kontum was relieved, the PAVN had lost around 80 tanks and suffered 4,000 casualties.

The offensive against An Loc, near Saigon, was supported by the already-deployed 171st Tank Battalion and the 20th and 21st Independent Tank Battalions, which were equipped with T-54s. The town was encircled and Route 13, which led to Saigon, was severed by the 20th Independent Tank Battalion, which had crossed the Saigon River undetected on a pontoon bridge. On 13 April, the 20th and 21st Independent Tank Battalions attacked An Loc in support of the 9th Infantry Division, but the coordination between artillery, tanks and infantry was poor. The ARVN soldiers held their ground with LAW anti-tank rockets. An entire column of six T-54Bs that had reached the main avenue of the town was completely wiped out. Another attack force, which was caught in a pre-planned B-52 strike area, lost an entire platoon of tanks.

On 15 April, the 171st Tank Battalion joined the second offensive against An Loc. After losing a further dozen T-54s, the PAVN pulled back and besieged the city. An independent armored company was then set up with captured ARVN M-41 tanks and M-113 APCs. The remaining battered armored formations were regrouped within the 26th Armored Regiment, with two depleted tank battalions and one APC company. This provisional armored regiment was disbanded in 1973.

On 9 May 1972, the PAVN tried one more time to take An Loc, launching an assault that was supported by 40 tanks. B-52 strikes, fighter bombers and Cobra helicopters hit the attackers. On 12 May, the T-54s reached the northern and eastern parts of the city and commenced direct tank fire from entrenched positions. On 12 June, the last PAVN units were driven from An Loc after losing nearly all the 40 tanks committed.

The year 1972 ended with new fighting in Laos. The 195th Independent Tank Company, which was brought up to battalion status, received additional Type 59, T-34-85s and K-63s. The unit supported the attack against Sam Thong and the Hmong Headquarters at Long Tien base. The 3rd Independent Tank Company in the Boloven Plateaux was expanded, becoming the 6th Independent Tank Battalion. The unit, which was equipped with PT-76s and T-34-85s, operated around Pakse until the cease-fire in 1973.

Most of the PAVN armor losses of 1972 were attributed to air strikes. The North Vietnamese had tried to protect their units by deploying a considerable number of 37mm and 57mm AA guns and SA-7 (A-12) missiles. Since 1969. some AA artillery units were also equipped with BTR-40As armed with twin 14.5mm machine guns. These armored vehicles operated within independent mobile AA artillery companies. In 1972 they were also used in scouting missions for the benefit of tank units. They were supported by a few ZSU-57/2s and some locally modified T-34 tanks armed with twin 37mm AA guns mounted on an open turret. The PAVN also modified some BTR-50PK APCs by installing a platform on the rear deck mounting a 14.5mm machine gun. In December 1972, the 237th AA Artillery Regiment was re-equipped with the sophisticated ZSU-23/4 Shilka. During the 1975 campaign, only a battery of four Shilkas was effectively engaged in combat. The remaining vehicles of the regiment arrived too late, after the fall of Saigon.

During the 1972 offensive, the PAVN lost around 400 tanks and APCs. The North Vietnamese then decided to reconstitute and expand their armored forces. The most obvious shortages were assessed, and the infantry divisions were trained to operate more closely in coordination with the artillery, air defense units, and armored forces. The PAVN identified two specific Blitzkrieg-style tactics for the use of armored forces: the "sudden assault" and the "deep advance". The notion of sudden assault implied crushing enemy resistance by a quick attack using the shock effect of tanks to throw the enemy off balance. A successful sudden assault would open the way for an effective deep advance, or pursuit.

In 1973, the Soviets delivered additional T-55, T-54, T-34-85 and PT-76 tanks and a small number of BTR-60PB APCs. US sources indicated that a small number of ISU-122 self-propelled assault guns was also delivered. If that proved correct, it was the heaviest armored vehicle that entered service with the PAVN. Little is known about the operational record and combat use of the SU-100 tank destroyer that was also received at the same time in order to supplement the surviving SU-76s. China also delivered more Type 59 and Type 63 tanks and, more importantly, additional K-63 APCs. In fact, the K-63 became the main PAVN APC used in the 1975 offensive.

In 1974, the PAVN could deploy nine armored regiments: the 201st, 203rd, 204th. 206th, 207th, 215th, 273rd, 408th and 574th Armored Regiments. These units regrouped some 29 armored battalions. US intelligence estimated that the North Vietnamese were then using some 600 tanks and 400 APCs.

Learning the costly lessons of the Nguyen Hue Offensive, the PAVN believed that future combat would be fought at the combined army corps formation level. Each of these corps would have between three and four infantry divisions, one AA artillery division, one artillery brigade and one armored brigade. The 202nd Armored Regiment was the first unit to be brought to brigade strength, with five armored battalions, and was attached to the 1st Army Corps in October 1973. The 2nd Army Corps was set up on 15 May 1974, with the attached 203rd Armored Brigade. The remaining armored units were put directly under the command of the PAVN Armored Forces Directorate. In December 1974, two other unidentified armored brigades were created and placed under the control of the Strategic General Reserve.

The 1975 offensive began with an assault against Ban Me Thout in the Central Highlands. Leading the attack was the 273rd Armored Regiment with a battalion of T-54s, a battalion of T-34-85s and another of K-63s. The quick collapse of ARVN Military Region 2 took Hanoi by surprise. The South Vietnamese decision to abandon Hue further to the north created a panic that was fully exploited. The units of the Tri Thien Front and the two divisions deployed near the Laotian border went on the offensive, quickly followed by the 2nd Army Corps. The attached 203rd Armored Brigade received orders to move toward Hue, but the unit learned that the ancient capital was already taken when its vehicles were still crossing the DMZ. In fact, the brigade played only a minor role in the fall of ARVN Military Region 1. On 23 March 1975, the 574th Armored Regiment, attached to the Tri Thien Front, drove into Da Nang and crushed the last ARVN resistance in the area.

After the fall of Da Nang, it was decided to take Saigon before the first rains of the wet season. The 2nd Army Corps moved south, along the coastal highway, with the T-54s and Type 63s from the 574th Armored Regiment in the lead. In the Central Highlands, the units which had taken Ban Me Thout and Pleiku were now grouped within the newly created 3rd Army Corps. They rolled down to the coastal plains and joined forces with the 2nd Army Corps. The PAVN units also pressed into service captured or abandoned ARVN armored vehicles. The tanks were used only on a small scale, notably the M-41s, while the M-113 APCs were used extensively to reinforce the small amount of K-63s, BTR-50PKs, BTR-152s and BTR-60PBs.

By advancing in tight, combined-arms groups, with infantry in APCs, trucks and captured vehicles, the tank units maintained constant pressure on the withdrawing enemy. When resistance was encountered, the leading units deployed for a sudden assault while following units bypassed the enemy location to continue the pursuit. By these means, the PAVN armored units were able to cover an average of 50 kilometers (31 miles) a day. Within two months of the beginning of the Ho Chi Minh Campaign, North Vietnamese tanks were in striking distance of Saigon.

By mid-April 1975, the 1st Army Corps, with the attached 202nd Armored Brigade, was also deployed around Saigon. It was followed by the newly created 4th Army Corps, which had three armored battalions attached. Finally, from west and southwest of Saigon was created the 232nd Tactical Force, which grouped three infantry divisions, three battalions and one company of armored vehicles.

During the final assault against Saigon, most of the PAVN armored units were still on the roads, speeding toward the South Vietnamese capital and crushing on the way the last pockets of ARVN resistance. Some regiments saw their organic battalions dispersed on different fronts. For example, the 206th Armored Regiment had relinquished its 1B Battalion, which was equipped with a company of Type 59 tanks and two companies of K-63s, to the 202nd Armored Brigade. The remaining 195th and 575th Armored Battalions, equipped with a mix of T-54, Type 59, T-34-85, Type 63 and K-63, were engaged independently to support clearing operations around Xuan Loc and Bien Hoa. The day that Saigon was taken, the PAVN engaged 400 tanks and APCs against the last defensive positions of the city. On 30 April, T-54 number '843' from the 203rd Armored Brigade crashed through the gates of the South Vietnamese presidential palace. South Vietnam had fallen. The time was 1215 hours.

The Armored Forces of Cambodia

In 1954, the French set up the first Cambodian armored battalion (Bataillon Blindé Cambodgien), which was equipped with M-8 armored cars, M-3 half-tracks and M-3 scout cars. In 1956, the US delivered 36 M-24 tanks and some M-8 HMCs, which helped to form an armored regiment. The Régiment Blindé Khmer was organized with a tank battalion and a reconnaissance battalion. During most of the 1960s, Cambodia tried to remain neutral from the Vietnamese conflict, with Prince Sihanouk requesting military aid from France, Soviet Union and China. In 1964, the Royal Khmer Army received from France forty AMX-13 light tanks, which formed a second tank battalion. The Soviet Union also delivered a few BTR-40s and BTR-152s to supplement the M-3s and M-8s. France also delivered a company of Panhard AML-60 and AML-90 armored cars in 1969. The armored units were split into an independent battalion at Kompong Cham and a regiment at Sre Khlong. The Khmer Half Armored Brigade was engaged in combat for the first time in April 1967 in clearing operations against Khmer Rouge guerrillas. In November 1969, Prince Sihanouk ordered a limited military campaign against North Vietnamese logistic bases in the Mondol Kiri and Ratana Kiri provinces along the South Vietnamese border. It was to be supported by the M-24 and AMX-13 tanks.

With the disposal of Prince Sihanouk in March 1970, Cambodia became a pro-Western republic. Within days of the change in government, the newly re-christened Forces Armées Nationale Khmere (FANK) went into action against the PAVN. The Khmer Half Armored Brigade led a combined task force, which was made up of infantry, airborne and artillery forces, and drove toward the town of Boret, 90 miles southeast of Phnom Penh. Fighting raged for a week, after which the outnumbered FANK were forced to withdraw from the border area. In August 1970, the quickly expanding FANK launched an ambitious offensive, Operation "Chenla", with ten infantry battalions and the support of the vehicles from the Half Armored Brigade, in order to reopen Route 6. Although a portion of Route 6 was reopened, the FANK offensive was blunted by the PAVN 9th Division. The Cambodian troops were forced into defensive positions and, thanks to the help of M-24 tanks, repulsed several infantry assaults.

In 1971, the Khmer Half Armored Brigade was brought to brigade strength, but without any additional equipment. France and the Soviet Union had suspended the delivery of spare parts, increasing the difficulties encountered by the Cambodians. They were now forced to cannibalize their remaining armored vehicles to maintain some of them in the field. In April 1971, the FANK launched Operation "Chenla II" to open all of Route 6 and to secure the road between Kompong Cham and Kompong Thom. The rapid advance of the FANK surprised the PAVN and the entire Route 6 was retaken in two weeks. The success was short-lived, however. The PAVN counterattacked and routed the FANK task force, destroying over fifty trucks. The armored vehicles retreated in good order toward Phnom Penh.

In 1972, the FANK armor was used in a series of hit-and-run operations around Phnom Penh and to keep the Mekong corridor open. In July, a FANK task force joined with an ARVN armored column to relieve the besieged city of Kompong Trabeck. It was the only time Khmer and South Vietnamese armored units operated together.

From January to June 1973, the Khmer I Armored Brigade engaged its units north of Phnom Penh to counter a vast Khmer Rouge offensive. The AMX-13s proved to be decisive on many occasions by inflicting heavy casualties on the Communist guerrillas. But combat attrition and the lack of spare parts began to seriously reduce the effectiveness of the armored battalions. By mid-1973, the Brigade was reorganized along American lines, with the addition of a new armored cavalry squadron operating M-113 APCs. Eight other cavalry squadrons were created by year's end. The Americans delivered some 202 M-113s, including 17 M-106s equipped with a 107mm mortar.

In early 1974, with the withdrawal from service of the last M-24 and AMX-13 tanks, the entire Khmer armored force was re-equipped with M-113 APCs. Despite repeated requests for M-41 tanks, Washington decided to suspend deliveries of further military equipment. Despite the termination of US aid, the FANK retained the initiative throughout 1974. The Khmer I Armored Brigade had now re-deployed all of its M-113 squadrons around Phnom Penh to repulse a Khmer Rouge offensive against the capital. The armored columns roved around the city searching for elusive Communist 105mm howitzer and 107mm rocket positions. An M-113 squadron was detached to each of the four newly created divisions in order increase their mobility.

In March 1974, two armor-led brigades relieved the town of Kampot, inflicting over 300 casualties on the enemy. In the meantime, another offensive took place against Oudong. An armored rescue task force tried to pass through the Communist blockade positions, but it could not advance far. Then, in the cadre of Operation "Castor 50", the Khmer Navy ferried 30 M-113 APCs across the Tonle Sap Lake, which were used to recapture the fallen city. In September two armored task forces made a concerted effort south of Phnom Penh to clear the banks of the Bassac River. Heavy fighting flared along the river until December. In a final drive, the M-113 squadrons from four FANK divisions were combined for a sweep on the west bank of the Bassac. Sixty-three enemy soldiers were killed before the operation closed on 31 December.

By early 1975, the FANK was exhausted, and most of the remaining units were re-deployed around Phnom Penh and the Mekong River corridor. Despite spirited fighting on the part of the I Armored Brigade, the Khmer Rouge divisions continued their advance. Neak Long, the last government outpost on the upper Mekong, fell on 1 April, and Phnom Penh was cut off from the outside world. The FANK then dug into their final ammunition reserves. The armored vehicles now lacked spare parts and fuel, but they continued to hold the last defensive lines until 17 April. On that day the Khmer Rouge forces entered Phnom Penh, some of them riding on captured M-113s.

The Armored Forces of Laos

It was in 1955 that Laos received former French M-8 armored cars and M-3 scout cars, using them to form two armored reconnaissance squadrons manned by 438 men. A Laotian Armored Battalion was set up in 1957 with the addition of a third reconnaissance squadron. This small force was later expanded into regimental size in 1958. The Armée Nationale Laotienne (ANL) 1st Armored Regiment was now organized with three reconnaissance squadrons and one tank squadron, which were equipped with 15 M-24 tanks. The regiment also received some M-3 half-tracks to increase the mobility of the attached infantry.

The command section and a reconnaissance squadron were at Chinaimo, near Vientiane, with the other squadrons deployed at PAKse and Thakhek. In order to replace the departure of French advisors, the unit received the support of contracted Philippine civilian technicians.

After the Geneva Accords of 1954, Laos tried to remain neutral and began to implement a coalition government with the Royalists and the Pathet Lao Communists. The accord failed and the Pathet Lao resurrected hostilities in 1959. The ANL 1st Armored Regiment used its vehicles mainly for road security tasks. On 9 August 1960, Captain Kong Le, with his 2nd Parachute Battalion, led a coup at Vientiane and then announced the formation of a true Neutralist government. The so-called Neutralists seized half a dozen M-8s and two M-24s. The Royalists, supported by the United States and Thailand, regrouped in the southern town of Savannakhet and decided to retake the capital. The offensive started in December, with three task forces advancing with armored support. The leading column had six M-8s and M-3s and two M-24 tanks when it started from Savannakhet and headed to PAKsane and then went to encircle Vientiane.

Inside the capital, the Neutralists called for the Pathet Lao to help them, while the Soviets re-supplied them with an air bridge from North Vietnam. After an intense artillery duel, the Royalist forces entered Vientiane on 15 December, with the M-24 tanks and other armored vehicles clearing the Neutralist positions street by street. Kong Le then decided to evacuate the heavily damaged city and retreated orderly to the Plain of Jarres with some captured M-8s and a single M-24.

The Royalists then slowly advanced along Route 13 toward the Kong Le positions, with two Groupement Mobiles, or regimental task forces, supported respectively by two armored reconnaissance platoons and one provisional tank company with six M-24s and two M-8s. Another task force, with an attached reconnaissance platoon, also started from Luang Prabang and marched south in order to strike the Neutralists from behind. Nevertheless, the southern columns were forced to withdraw in the face of light resistance at the Sala Phou Khoum crossroads. Each side then decided to dig in until a cease-fire was signed in May 1961 and a new accord for a new coalition government was agreed upon in June 1962.

In December 1961, the Soviets significantly increased their military aid to the Neutralists and delivered 45 PT-76 amphibious light tanks. An armored training center was set up at Phongsavang with the help of PAVN instructors. The Pathet Lao also received a dozen BTR-40 armored cars, giving the Communist and Neutralist forces an absolute superiority in the area of armored support.

Under the new tripartite government, peace in Laos lasted for six months. By 1963 the relations between Pathet Lao and Neutralists began to fray. When Kong Le asked that the PT-76s be turned over to his forces after their training, the PAVN refused to comply. When the Neutralists took them by force, the North Vietnamese embargoed the ammunition for the 76mm guns of their vehicles. In May 1964, the Communist forces swept across the strategic plain, forcing the Neutralists to turn over the Royal Government. Nearly all of the PT-76 force was lost, with only a few vehicles succeeding in the effort to break through the Pathet Lao positions to reach Moung Phanh.

In a combined Neutralist and Governmental offensive, the surviving PT-76s reopened Route 8 in November 1964, before continuing their advance to reoccupy the Nakhay Plateau. A company of PT-76s reached Lak Sao, but there the Lao effort was blunted by a PAVN counterattack. The lack of spare parts and ammunition soon forced Kong Le to disband what was the most powerful armored force to date in Laos.

From 1965 to 1968, the re-christened Forces Armées du Royaume (FAR) conducted only limited operations in the Plain of Jarres, as most of the fighting was now shouldered by the Hmong guerrilla units supported by the CIA. On 12 January 1968, the FAR sealed its fate when its garrison of Nambac in northern Laos fell. Five FAR regiments, including nearly all the country's airborne and artillery, were lost. The demoralized FAR was now relegated to static defense of population centers along the Mekong River. The FAR armored forces played only a marginal role until the end of the conflict, its units being engaged sporadically in road security tasks.

In August 1969, the Hmong guerrillas recaptured most of the Plain of Jarres in a series of infantry and airborne drives during Operation "Kou Kiet/About Face". Some 25 PAVN PT-76s and 113 other vehicles were captured and were immediately pressed into service. The Hmong PT-76s drove toward Sam Nuea and, in December, captured Lat Bouak, which was the crossroads of Routes 71 and 74. The use of captured Communist armor did not last long as lack of spare parts forced the lightly equipped guerrillas to abandon them. The FAR General Staff then requested the delivery of modern M-41 tanks to support the Hmong, but Washington turned down the request.

Instead of delivering modern tanks, the United States made only a limited effort to improve the obsolete FAR armored forces by transferring 15 M-706s (V-100s) armored cars to them. In late 1969, 76 FAR students were dispatched to the Kokethiem training center in Thailand for training in M-706 tactics and maintenance. By mid-March 1970, the first two M-706s were turned over to the FAR 1st Armored Regiment. This first two M-706s featured an open cupola with four .30-caliber machine guns. Other M-706s delivered to FAR included a close-top version with a 12.7mm heavy machine gun and coaxial .30-caliber machine gun, and a 81mm mortar carrier version. These vehicles were used to form a trio of five-car units within the 1st Armored Regiment: 1st Recce Squadron at Luang Prabang, 2nd Recce Squadron at Vientiane, and 4th Recce Squadron at PAKse. Each squadron also had some obsolete M-3s and M-8s. The 3rd Tank Squadron continued to use a dozen aging M-24s.

The new M-706 vehicles were used operationally for the first time in January 1971 when the PAVN launched an offensive against Luang Prabang, the Royal Capital. The five M-706s from the 1st Recce Squadron, with the M-8s and M-3s, helped to repulse several Communist infantry attacks. In May, three FAR task forces, supported by armored cars and M-24 tanks, cleared the last PAVN pocket of resistance.

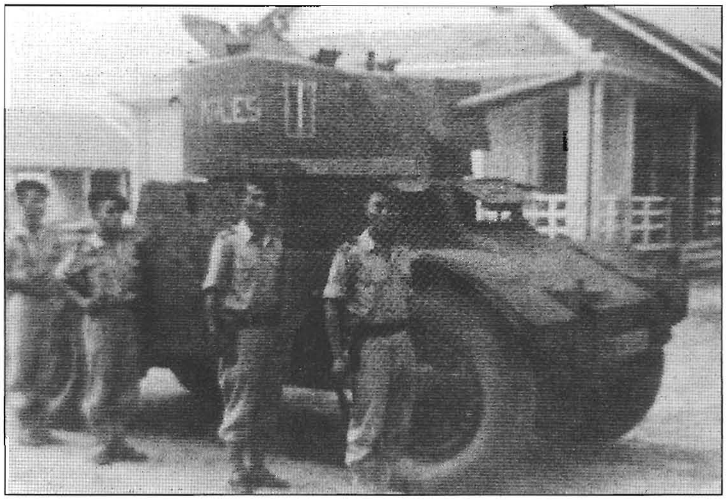
In May 1971, the FAR launched a limited operation in order to recapture Dong Hene in southern Laos from the PAVN. The Lao task force was supported by two M-24s and two M-706s, but its advance was blocked a few kilometers from the town. The retreating column then fell into a well-prepared ambush, losing its four armored vehicles.

In an unusual move, the FAR dispatched four M-706s to the Plain of Jarres in June 1971 to support the Hmong and Thai mercenary battalions. The platoon of armored cars was sent to patrol the perimeter around the Moung Phang airfield used by CIA aircraft. When the PAVN 195th Armored Battalion, with T-34-85s and K-63s, approached the position, the FAR crews panicked and fled. The abandoned vehicles were later destroyed by air strikes.

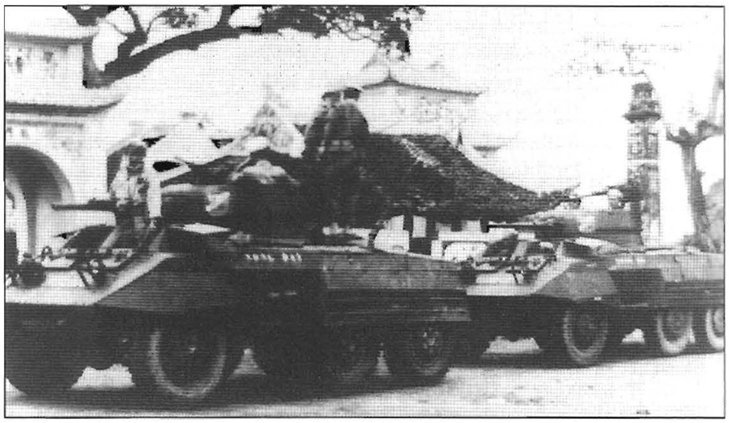
The last noticeable FAR armored action occurred in May 1972 when three Lao and Thai task forces cleared Route 231 in the Boloven Plateau. The advancing units had attached armored cars, including M-706s, and succeeded to force the PAVN away, despite the presence of some PT-76s and T-34-85s in the area.

In 1973, a cease-fire was implemented and a new coalition government set up. The FAR forces were now completely abandoned by Washington, which suspended any further aid. In May 1975, following the fall of South Vietnam and Cambodia, the FAR collapsed. The Pathet Lao took power without much opposition and declared the establishment of a People's Democratic Republic.

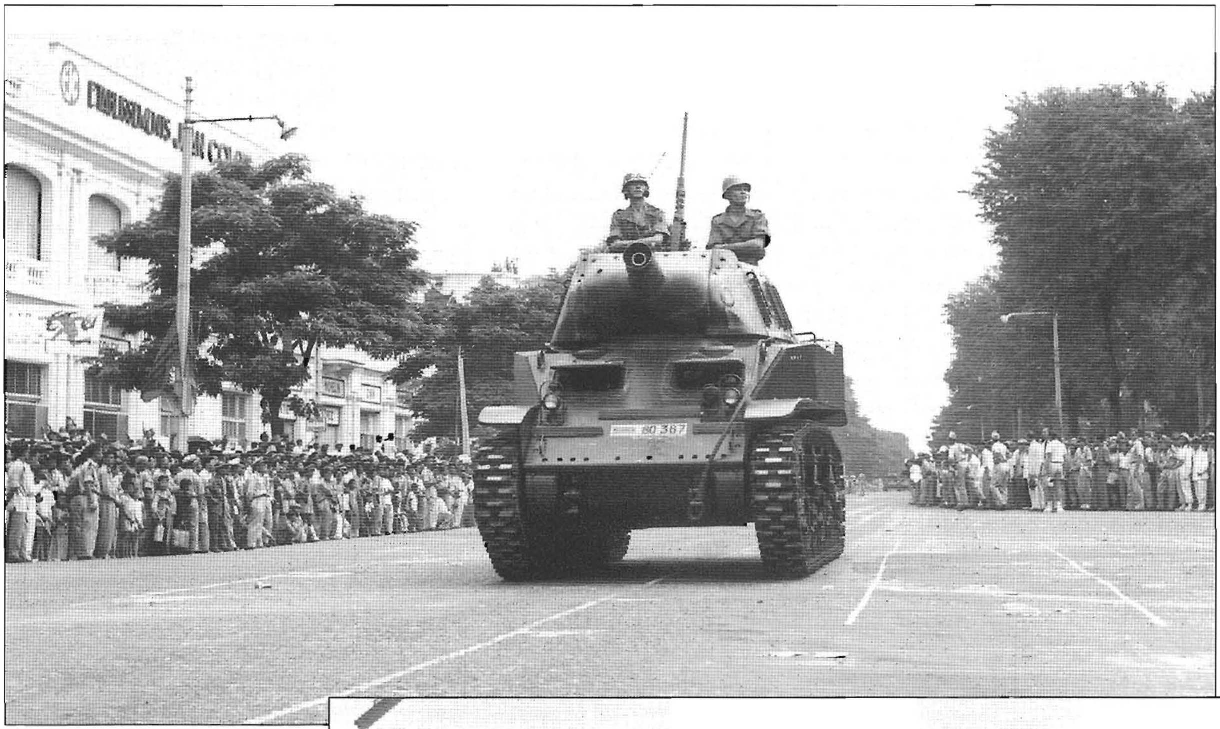
Most of the PAVN materials gathered for this book came from various available sources, notably the studies published by the Hanoi Military History Institute. They are published here for the first time in the West. Many thanks also to Ken Conboy and Darasy Var who made available many photos and much information about the Cambodian and Laotian armored forces.



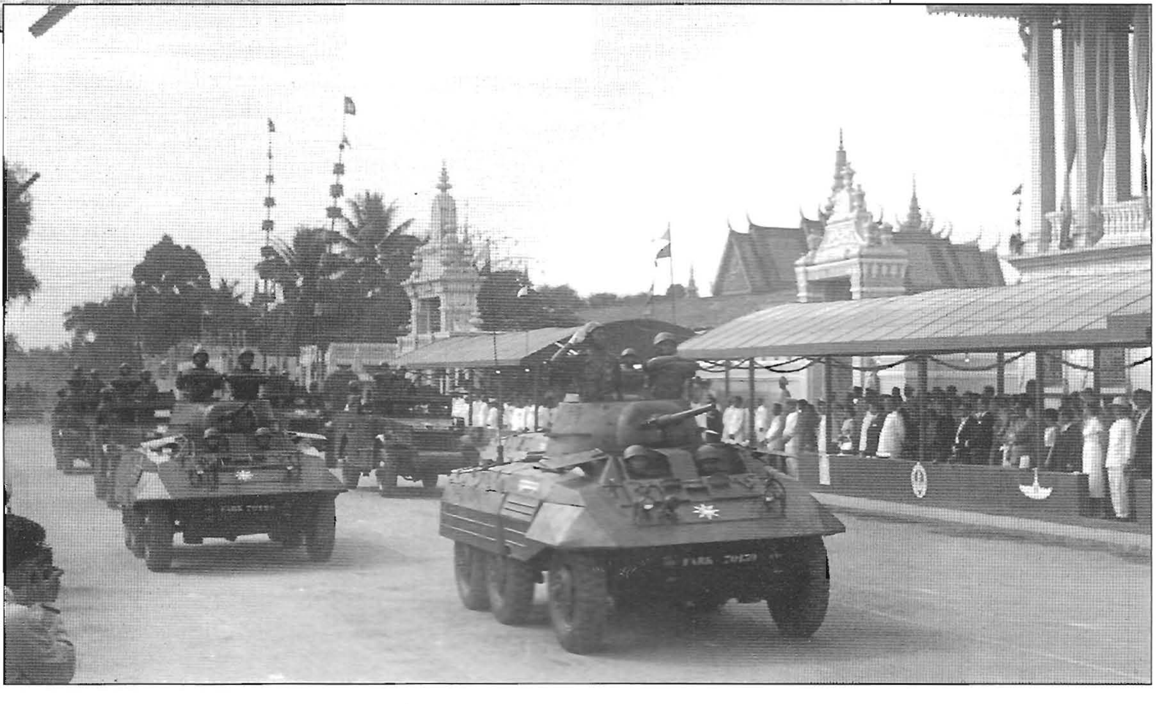
The Vietnamese armored force was created in 1950 out of some obsolete French Panhard P-178 armored cars. This vehicle is seen here during a troop inspection at the Thu Duc Officer School in 1952. (ARVN)



Vietnamese M-8 armored cars of the 3rd Escadron Blindé Vietnamien on patrol in 1953. They supported a sweeping operation carried out by some Vietnamese light infantry battalions against local Communist guerrillas near Saigon. Following French practice, the vehicles were named after famous battles, towns or prominent geographical locations. In this case, the M-8s wear the names of the Song Day and Song Bo Rivers. (ARVN)

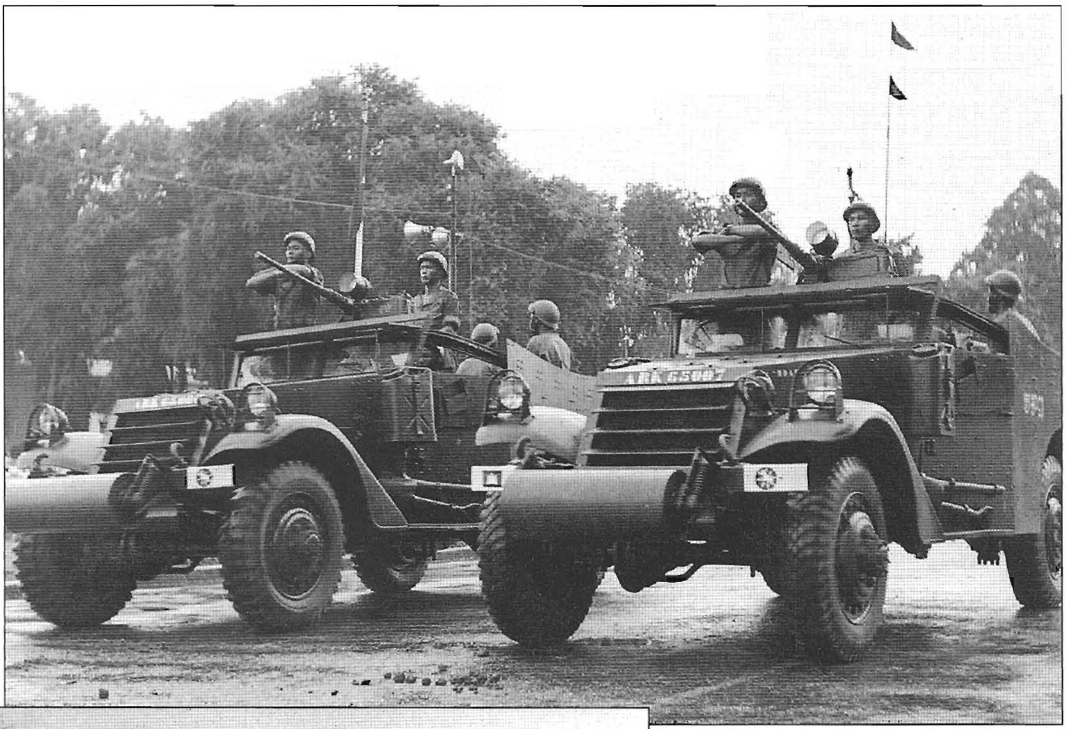


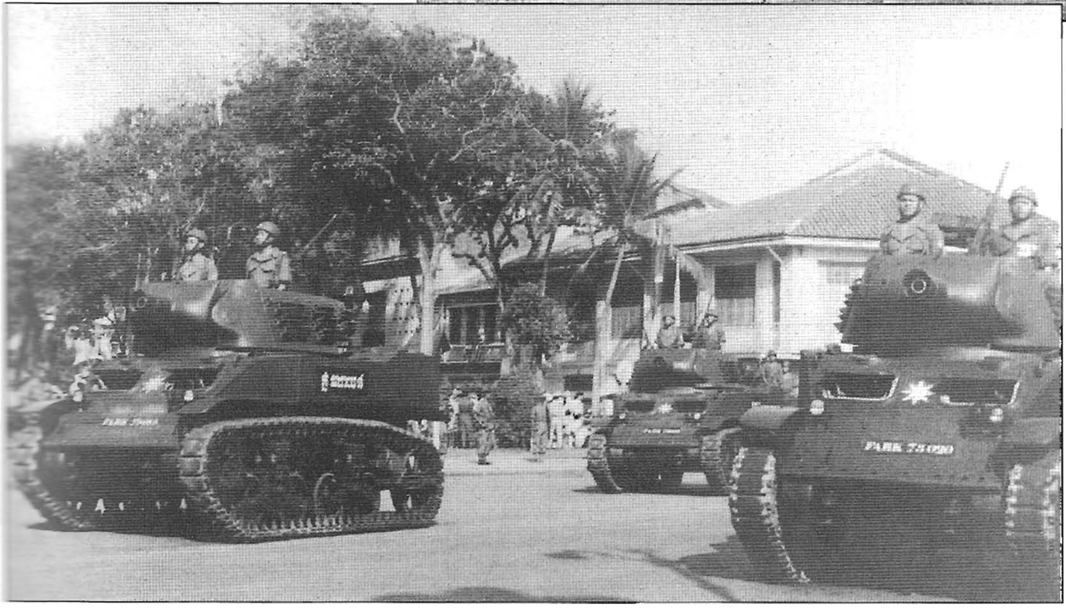
An ARVN M-8 HMC during a military parade at Saigon in 1955. Until the advent of the M-24 Chaffee tank, the M-8 HMC was the ARVN armored vehicle that had the most impressive firepower. The South Vietnamese flag is painted on the front of the hull. (ECPA)



The Armée Royale Khmere (ARK) received its first armored vehicles in 1955, when the French handed over to the Cambodians some M-8 armored reconnaissance vehicles and M-3 scout cars. The vehicles of the Khmer Armored Battalion are parading at Phnom Penh on 8 March 1956, during King Sihanouk's coronation ceremony. The vehicles wear a stylized white sun, the insignia of the Khmer Armored Force. (ECPA)

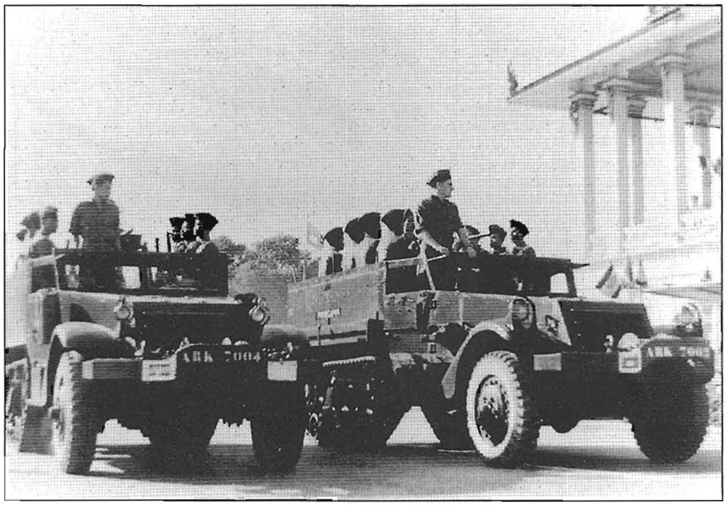
Khmer M-3 scout cars parading at Phnom Penh on 8 March 1956, in honor of King Sihanouk's coronation. The vehicles are armed with .50 caliber machine guns. The crews wear World War II vintage French tank crew helmets. (ECPA)



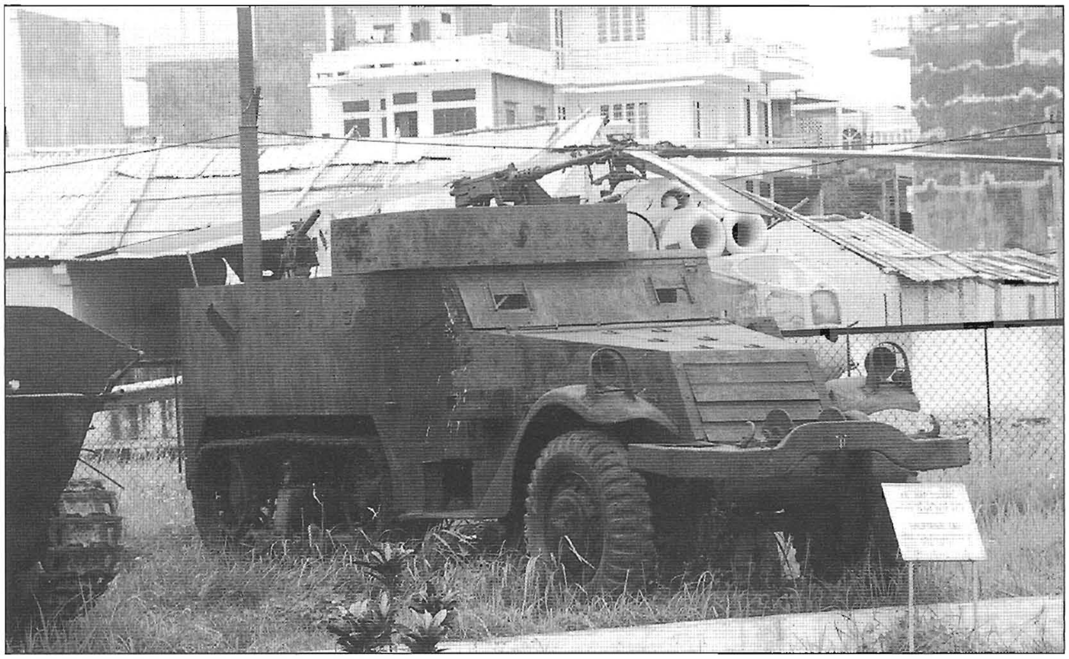


The Cambodian armored forces received a platoon of M-8 HMCs from the French. They saw only limited use before being replaced by the M-24 tank. In accordance with French tradition, each vehicle has the name of a town or province of the Kingdom painted on the side of the hull. (Darasy Var Collection)

Along with the M-8 armored car, the Cambodians also received some M-20 command car versions, such as the one seen here racing passed a crowd of impressed civilians. Note that the front mudguard has been deleted. (Darasy Var Collection)

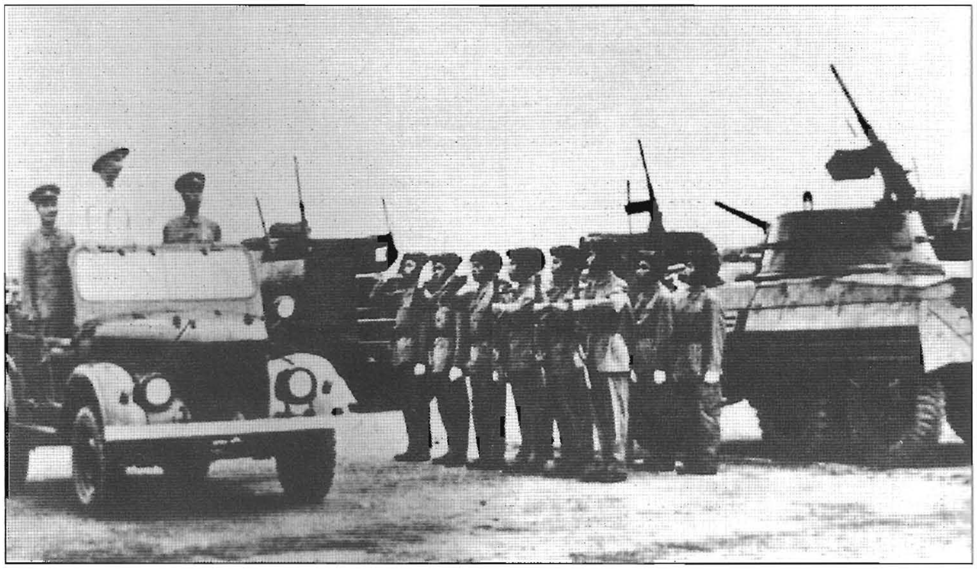


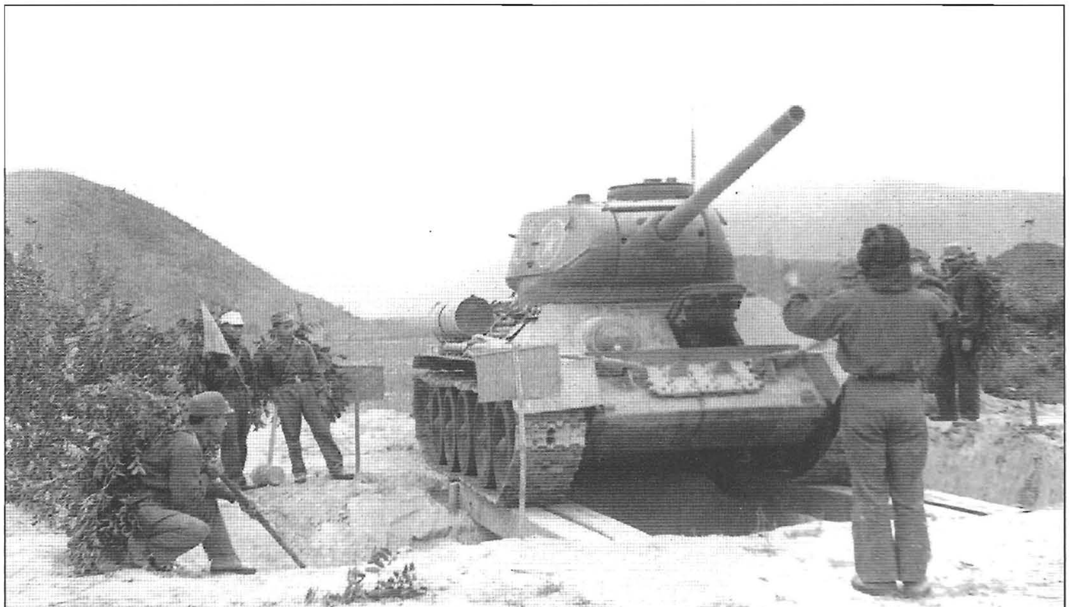
The Armée Royale Khmere also received some M-3 half-track carriers from the French. A French advisor is seen in this photo standing in the cab of the vehicle at the right. Note that the Cambodian soldiers are equipped with British Lee-Enfield rifles and that the vehicles are not equipped with machine guns. (Darasy Var Collection)



The PAVN's first armored formation was equipped with M-8 armored cars and M-3 half-tracks of unknown origin. They must have been vehicles left by the French or, more probably, given by Red China, who captured them in 1949 from the Nationalist forces. They were used mainly for training in North Vietnam and were later assigned to the defense of the VPAF air bases. Today this M-3 is on display at the VPAF Museum in Hanoi. (Author's Collection)

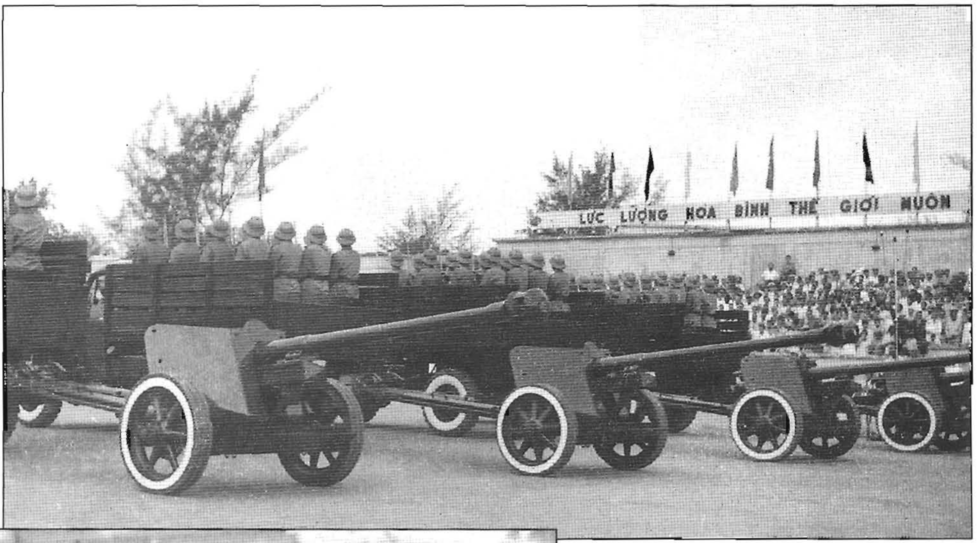
Chairman Ho Chi Minh, aboard a GAZ-69 command car, is visiting the first PAVN armored company in January 1956. The unit was then equipped with M-3 half-tracks and M-8 reconnaissance vehicles of unknown origin. The vehicles were armed with the standard US built .50 caliber machine gun. Note that the crew wore Soviet-style tanker helmet and armed with PPS-43 sub-machine gun. (Socialist Republic of Vietnam)

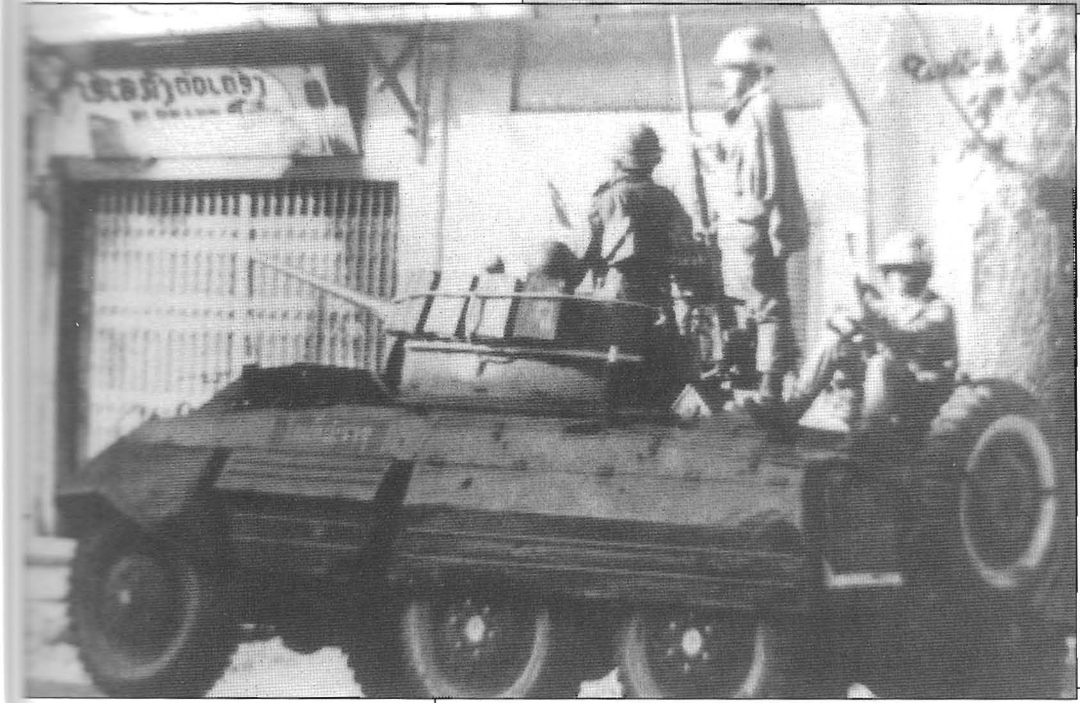




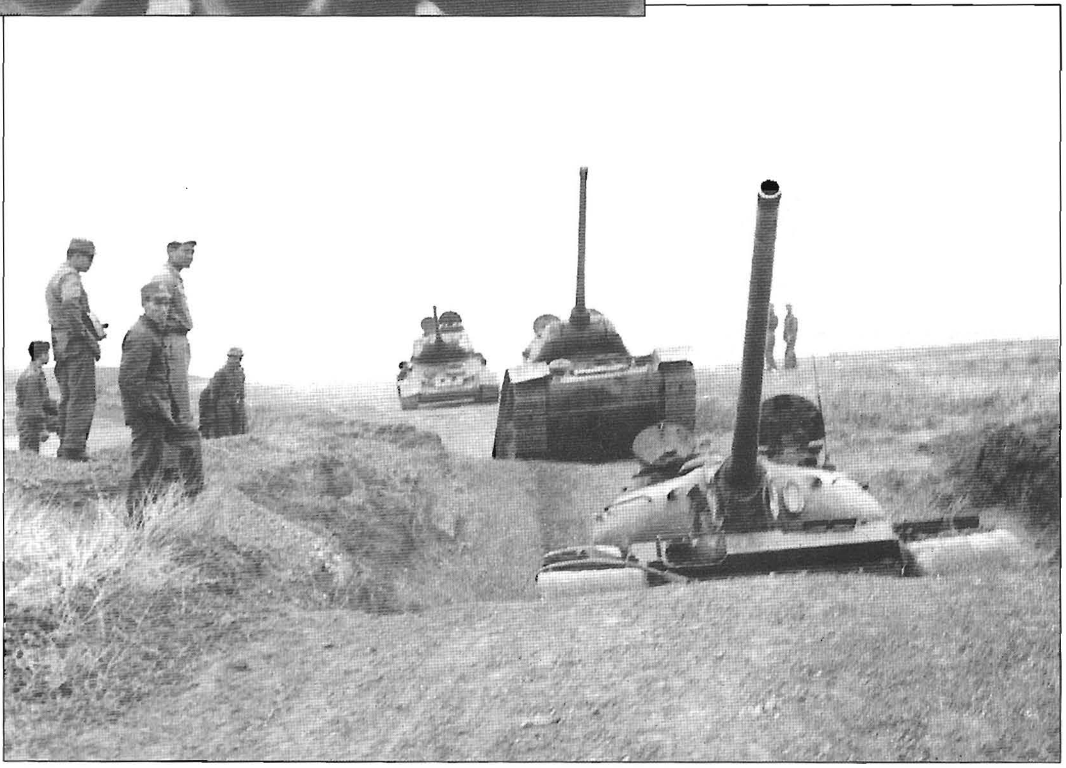
The PAVN set up its first armored unit on 5 October 1959, with the creation of the 202nd Armored Regiment, which was equipped with Soviet T-34-85 tanks and SU-76 SP guns. This T-34-85 is driving over a pit during an in-the-field maintenance exercise. (Socialist Republic of Vietnam)

While developing its armored forces in [illegible], the PAVN also reinforced its anti-tank units. Fearing an invasion from South Vietnam, the North Vietnamese set up several anti-tank artillery battalions equipped with World War II-vintage German PAK 40 75mm guns. These guns were captured by the Soviets in 1945 before being delivered to North Vietnam ten years later. These PAK 40s are seen during a military parade in Hanoi in 1960. (Socialist Republic of Vietnam)

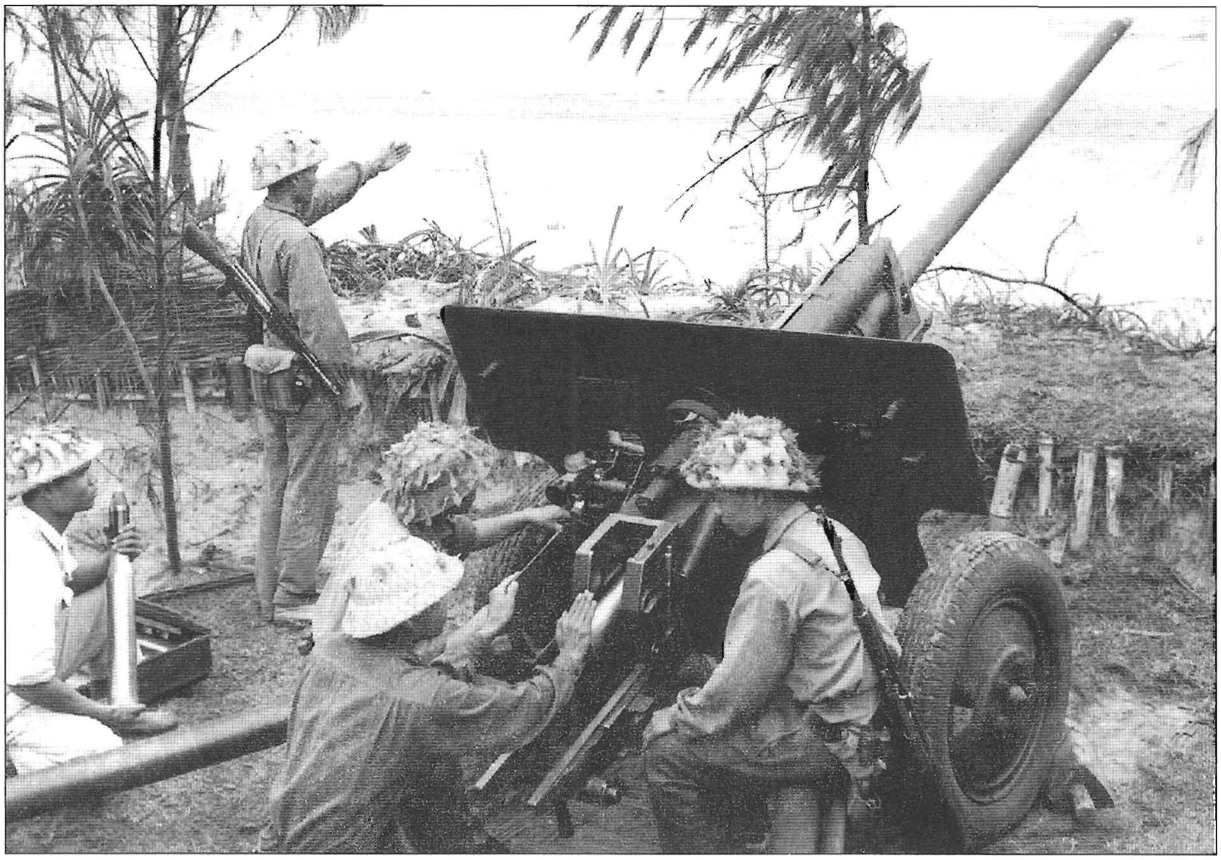




An M-8 armored car of the Armée Nationale Laotienne moves along a street in Vientiane during the fighting in December 1960 between the Royalist army and Neutralist forces of Kong Le. The capital of Laos suffered greatly from the artillery duels and the direct fire of the M-8 and M-24 tanks. (Ken Conboy Collection)



In 1965 the PAVN began to receive additional armor from the Soviet Union, including the first T-54s. They equipped the 202nd Armored Regiment, alongside older T-34-85s. The tanks of the unit are seen here during a cross-country driving exercise. (Socialist Republic of Vietnam)



In 1966, after th
Tonkin Gulf inciden
the North Vietnames
were prepared t
repulse a US invasio
Anti-tank units ha
been deployed alon
the shore, ready t
counter an amphibiou
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soldiers are manning
Soviet ZIS-30 57m
anti-tank gu
positioned along
beach near the 17t
parallel. (Socialis
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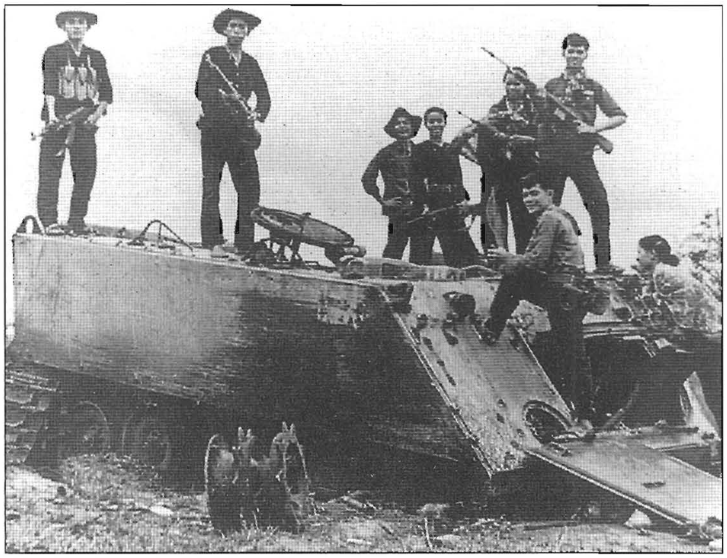
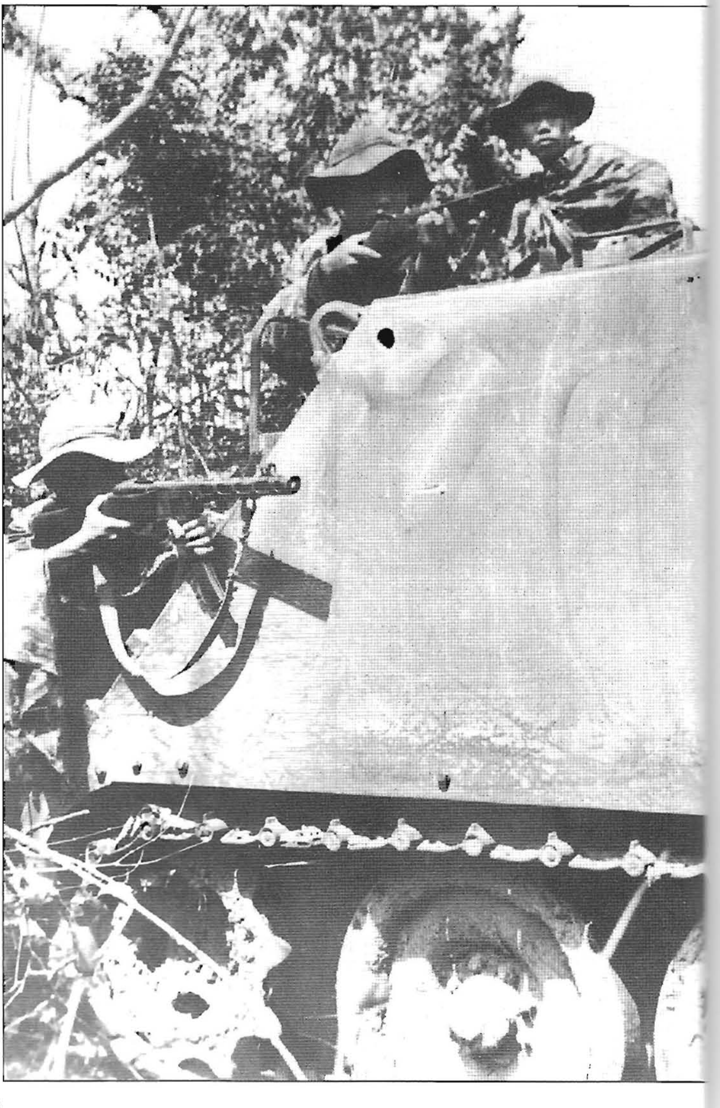
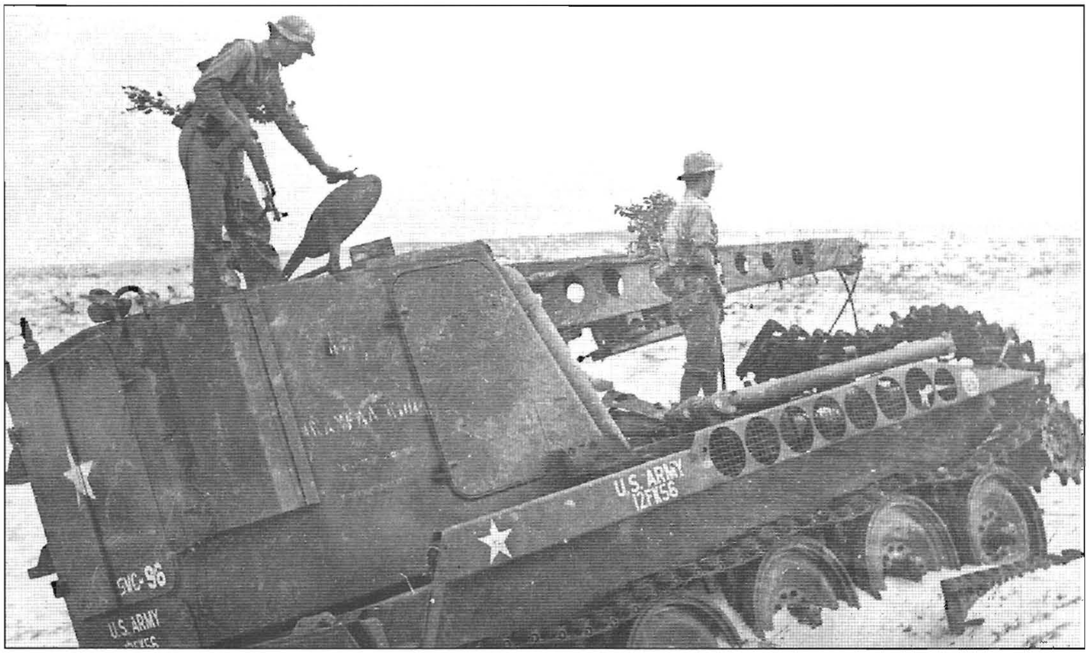


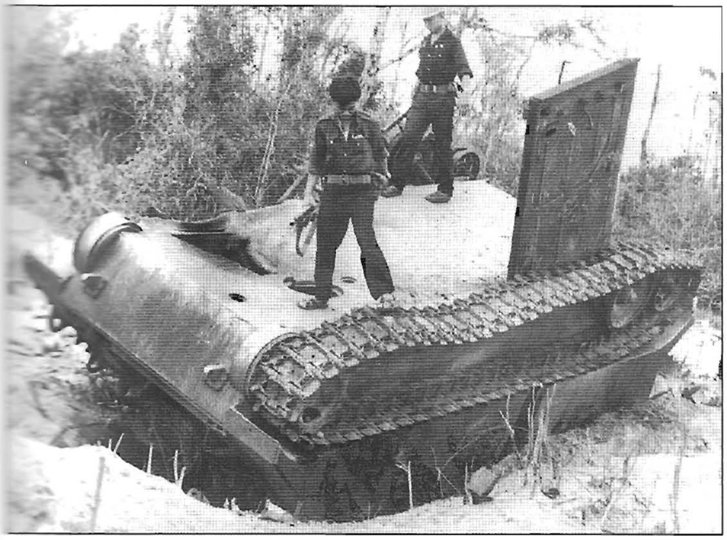
Viet Cong guerrillas pose beside a knocked-out ARVN M-113 near Cu Chi in 1966. The vehicle apparently ran over a mine, which blew off the right track. Note the variety of weapons carried by the Viet Cong soldiers, including an M-1 Carbine, an M-1 Garand rifle, an M-14 and an AK-47. (Socialist Republic of Vietnam)



Instead of fighting US armor launched in an invasion of North Vietnam, the Communist forces fought them in the South. There the Viet Cong guerrillas became adept at setting up ambushes against armored columns. This US Army M-113 APC was disabled by an RPG-2 rocket in 1966. The guerrillas are armed with Soviet Mosin Nagant rifles and a PPSh-41 submachine gun that would later be replaced by the modern Kalashnikov AK-47 assault rifle. (Socialist Republic of Vietnam)

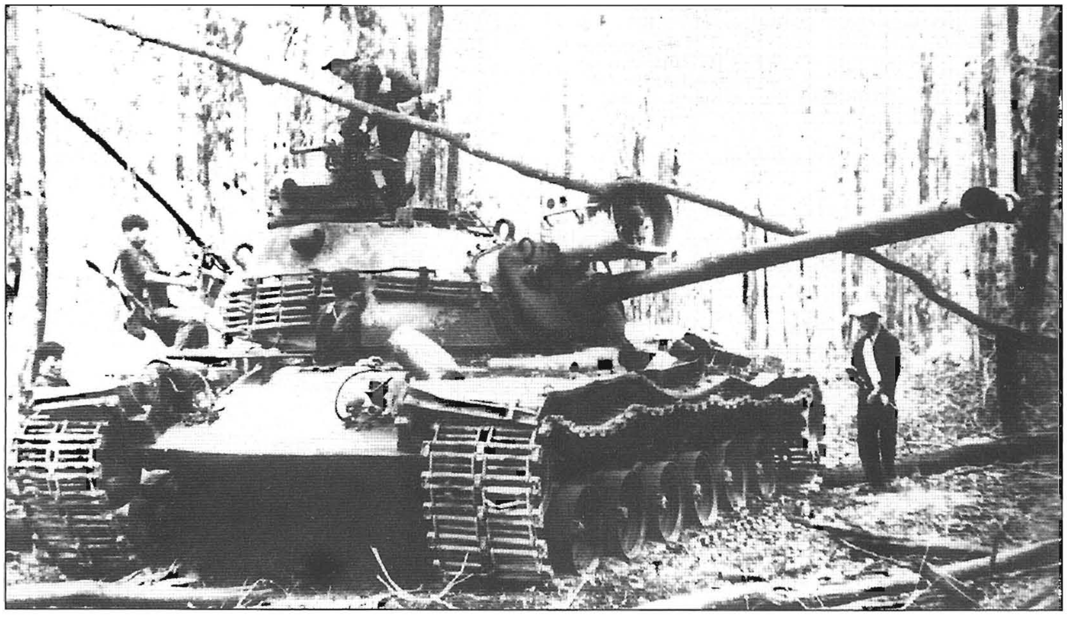


This US Army M-578 light recovery vehicle was knocked out in 1967 by regular PAVN soldiers in the Binh Dinh Province. The vehicle had its right track broken, probably after hitting the mine that immobilized it. The fate of the crew is unknown. (Socialist Republic of Vietnam)

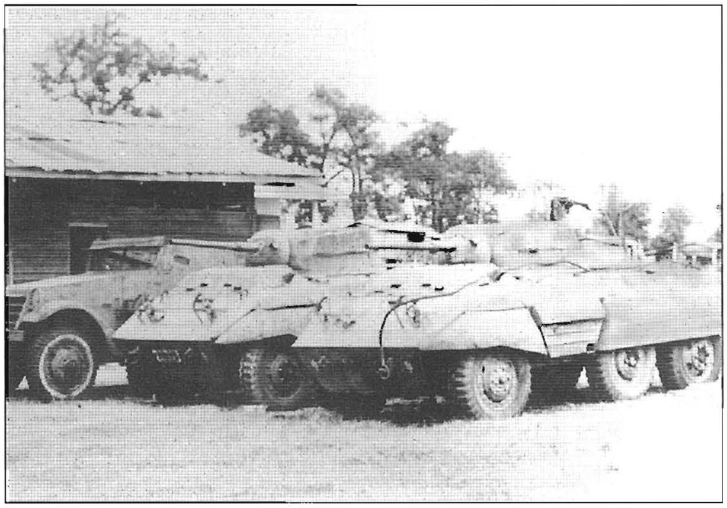


Mines were also widely used by the Viet Cong to knock out enemy armor. These guerrillas are inspecting a US Army M-113 that was overturned by an anti-tank mine in 1967. The explosion fractured the vehicle's underside, while the rear exit door has been blown off and is now curiously erected on top of the overturned hull. (Socialist Republic of Vietnam)

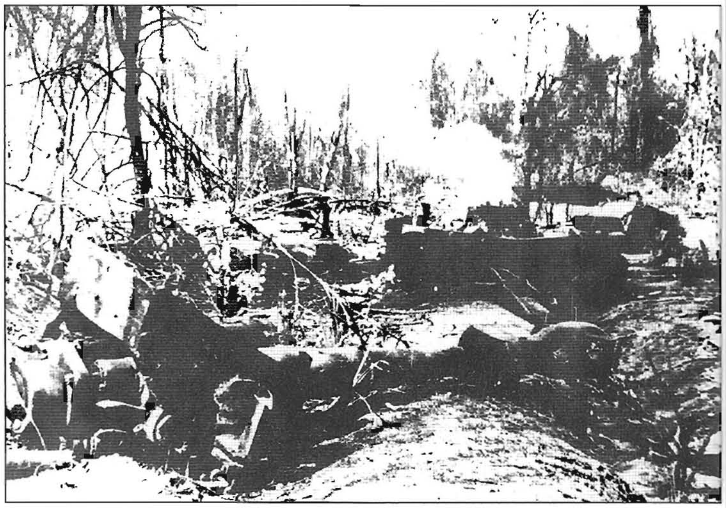
A poor quality, but very interesting photo showing Viet Cong guerrillas just after immobilizing an American M-113 during an ambush. They had only a few minutes to set the vehicle on fire and to capture or kill its crew before the arrival of US reinforcements or air strikes. (Socialist Republic of Vietnam)



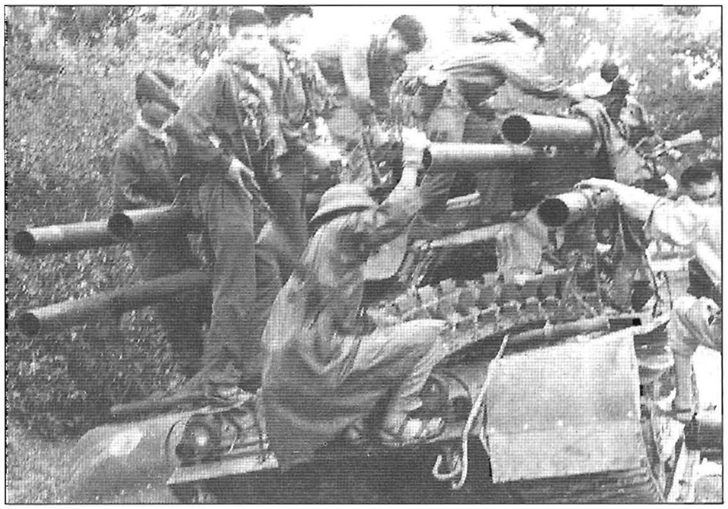
Viet Cong guerrillas inspect a knocked-out US Army M-48A3 in 1967. The tank was disabled in a densely forested area by several RPG-2 hits at close range. Note the Xenon light mounted above the 90mm gun. (Socialist Republic of Vietnam)



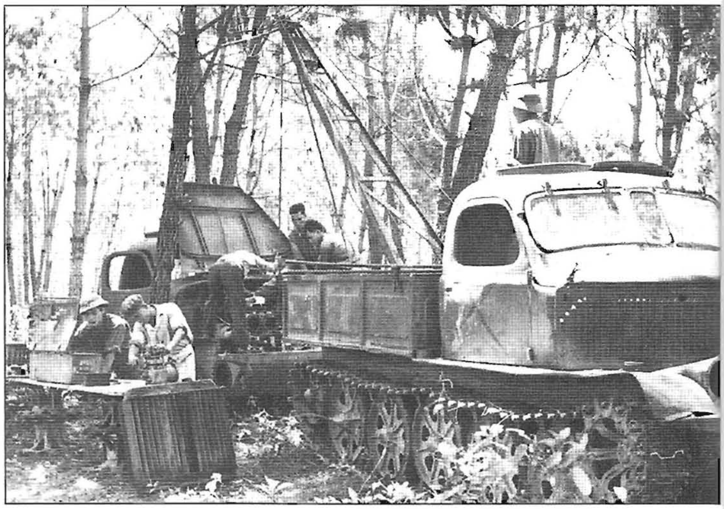
M-8 armored cars and M-3 half-tracks of the Laotian 1st Armored Regiment at Pakse in 1967. The obsolete Laotian armored vehicles were used mainly for convoy escort duty and static defense of local provincial capitals. They were rarely engaged in more offensive operations against the Pathet Lao or the PAVN. (Ken Conboy Collection)



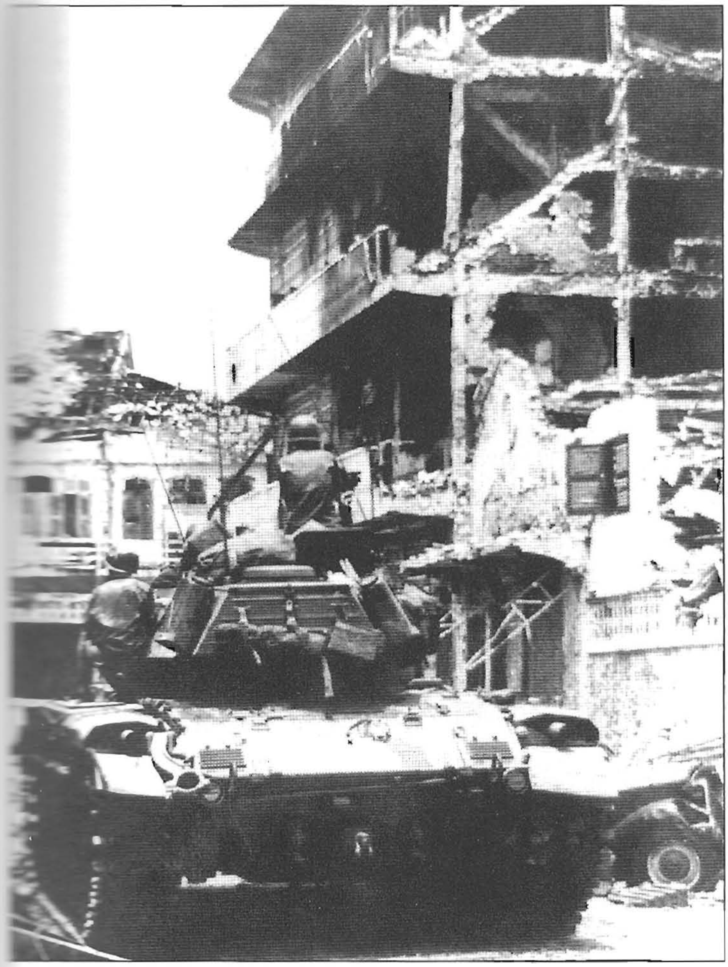
Though not of the highest quality, this photo shows a destroyed US Army M-109 self-propelled gun. The vehicle received a direct RPG-2 hit in the ammunition compartment, which literally blew it up. In the foreground are the remains of the 105mm gun. (Socialist Republic of Vietnam)



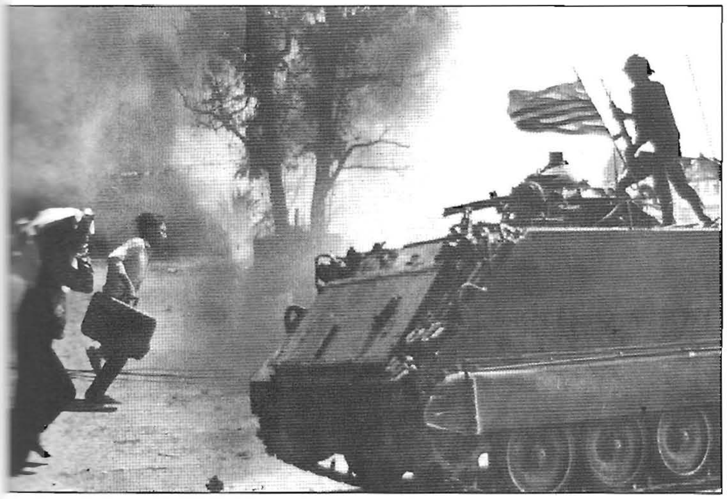
PAVN soldiers gather around a captured Marine M-50 Ontos that had just been disabled in an ambush near Khe Sanh in January 1968. The vehicle is believed to be from the 1st Anti-Tank Battalion. In Vietnam the Ontos never had any occasion to confront Communist tanks, but instead used its astonishing firepower of six 106mm SR guns for infantry support. (Socialist Republic of Vietnam)



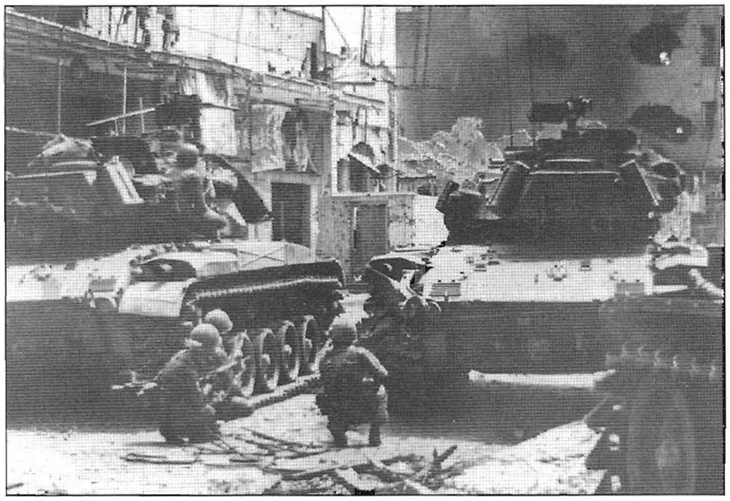
An AT-L light artillery tractor being serviced in the field somewhere in Laos near the Khe Sanh Marine base in January 1968. The other AT-L tractor is equipped with a crane, which served to lift the engines of broken down vehicles. These vehicles were a late-series production with new, wide wheels. The AT-L tractor could tow a load up to six tons or carry a load of two tons. (Socialist Republic of Vietnam)



During the Tet Offensive of February 1968, the ARVN used its armored force to clear Communist troops out of Saigon. This M-41A3 from the III Armored Brigade was placed in a blocking position on a particularly ravaged street. The use of tanks gave the ARVN tremendous firepower, but the damage done to the densely populated area was extensive. (ARVN)

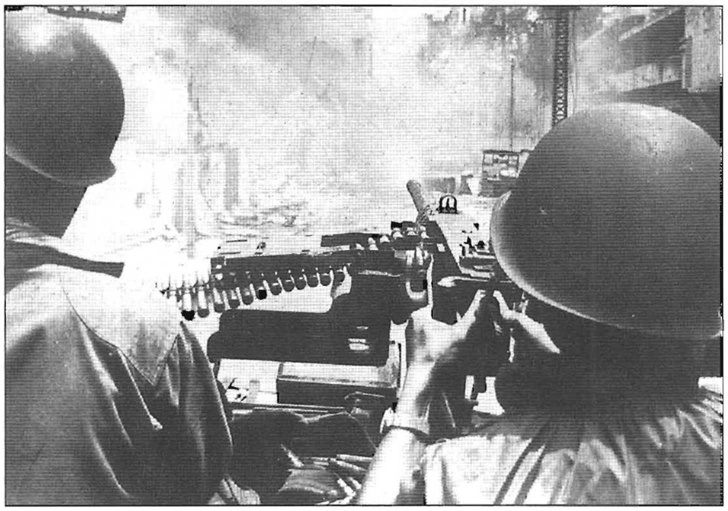


An ARVN M-113 of the 10th ACR in Saigon during the Tet Offensive. The vehicle is fitted with an M-74C machine gun turret, with two .30 caliber machine guns in place of the usual single .50 caliber heavy machine gun. (ARVN)

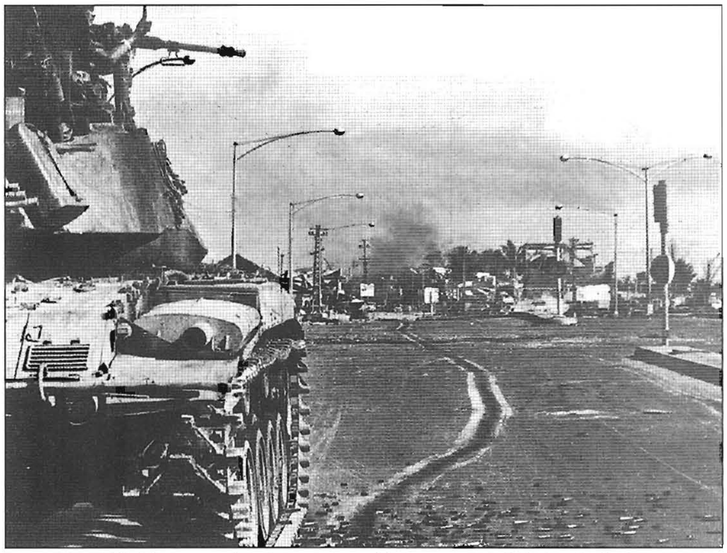


Three M-41A3s from the III Armored Brigade block a street where Viet Cong guerrillas are entrenched. The tanks provided fire support to ARVN Rangers, who were sent to clear out that part of the city. (ARVN)

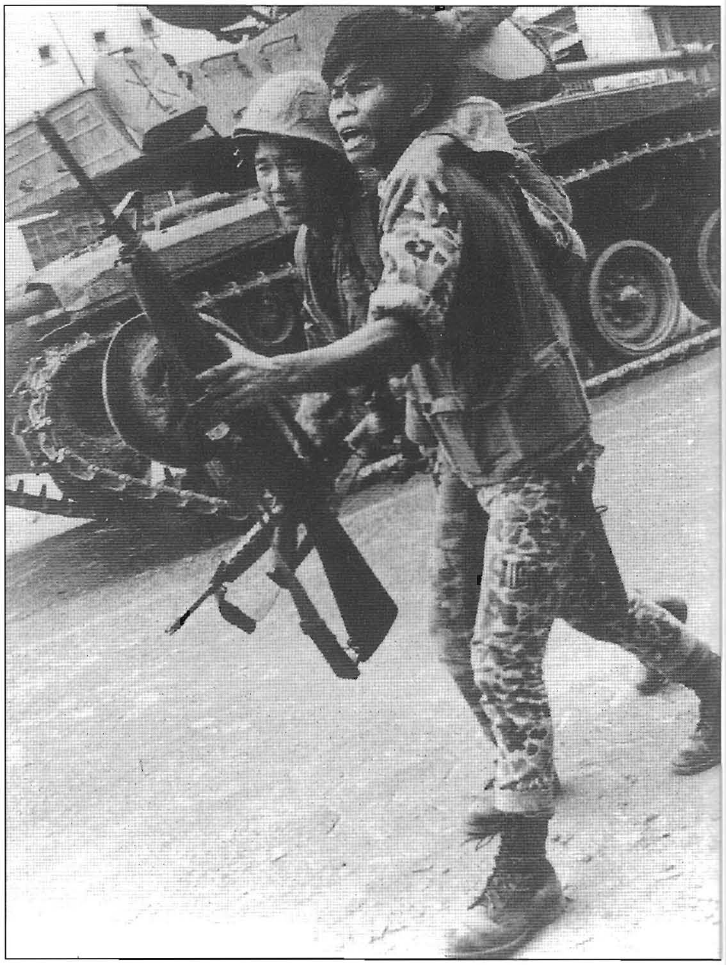
An M-113 of the ARVN 10th ACR/III Armored Brigade engages in street fighting in Saigon during the 1968 Tet Offensive. This street was closed to all automobile traffic while the APC moved cautiously to eliminate the last remaining snipers. (ARVN)



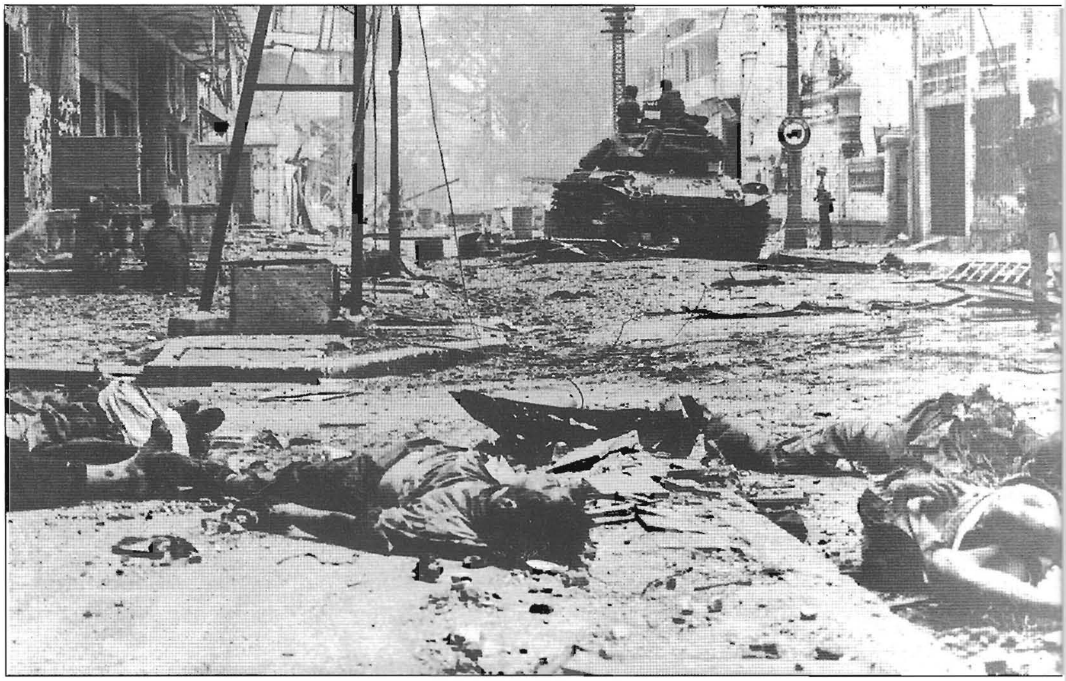
This view from the top of the turret of an ARVN M-41A3 tank shows the ferocity of the street fighting in Saigon during the Tet Offensive. The tank commander directs the fire of the .50 caliber machine gun down a street in the Cholon Chinese quarter. (ARVN)



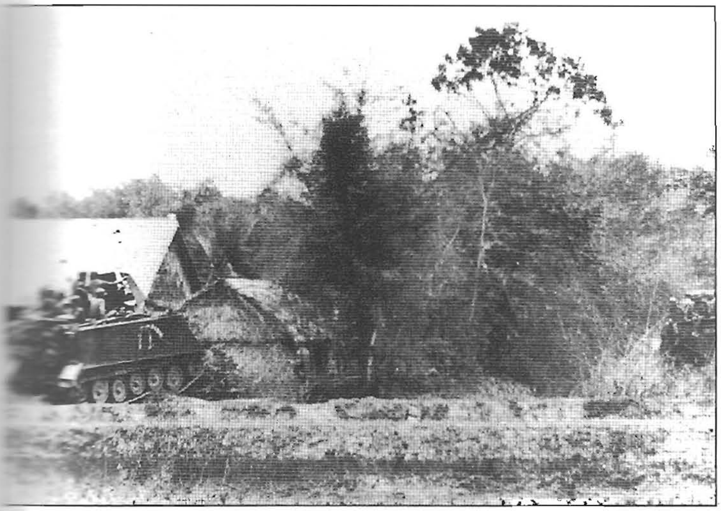
The ARVN armored units engaged in the street fighting in Saigon were ordered to avoid civilian casualties whenever possible. The tanks mainly used their machine guns instead of their bigger guns. The expended cases in the street indicate that this M-41A3 has extensively used its .50 caliber machine gun. (ARVN)



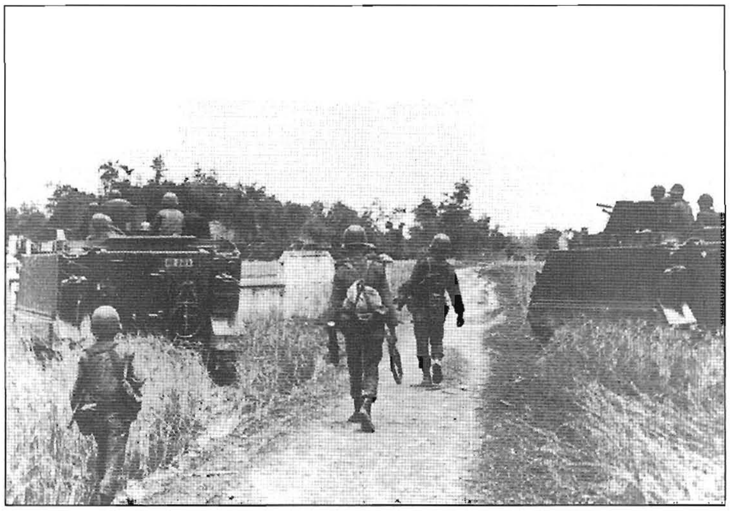
The extensive use of armor by the ARVN helped to limit the South Vietnamese losses. Taking cover behind an M-41A3, a wounded Ranger is evacuated. South Vietnamese Marines and Rangers played a leading role in the recapture of the areas of Saigon that had fallen into the hands of the Communists. (ARVN)



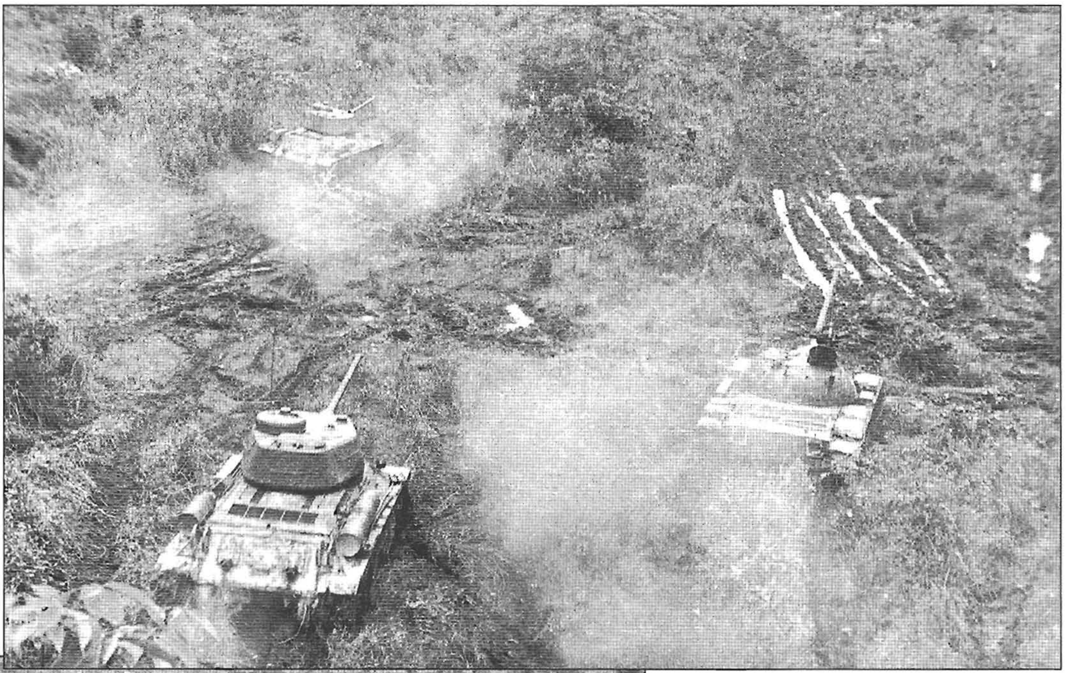
A grim testimony of the ferocity of the street fighting in Saigon during the Tet Offensive. This group of Viet Cong guerrillas had just been cut down by an M-41A3 of the III Armored Brigade before the photo was taken. (ARVN)



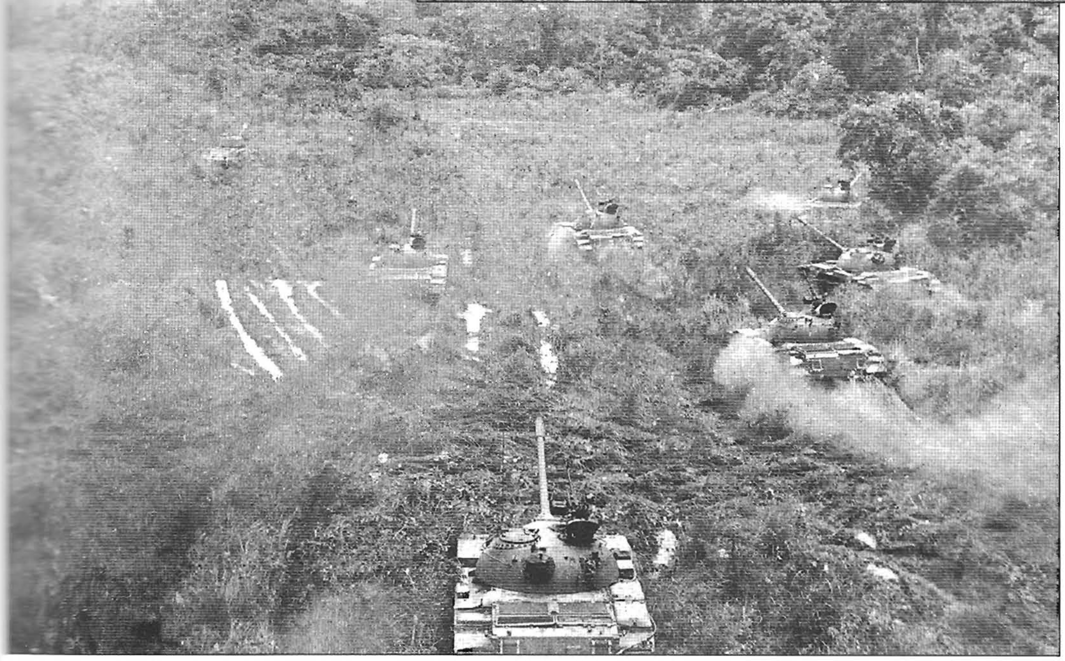
In the aftermath of the Tet Offensive, the ARVN forces were sent to pursue the fleeing Communist forces driven out of the cities. These M-113s are supporting a sweeping operation in a village northeast of Saigon. The American forces were very impressed by the good performance of the ARVN armored units during the 1968 fighting. (ARVN)



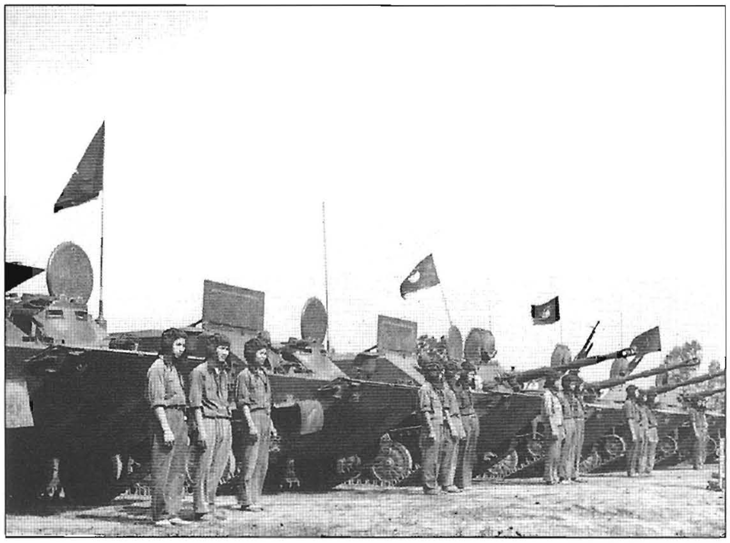
Two ARVN M-113s of the 6th ACR take up a blocking position near a graveyard and spray with machine gun fire the wooded area in front of them where Viet Cong troops are entrenched. The tracked APCs offered great mobility and firepower to the South Vietnamese infantry. (ARVN)



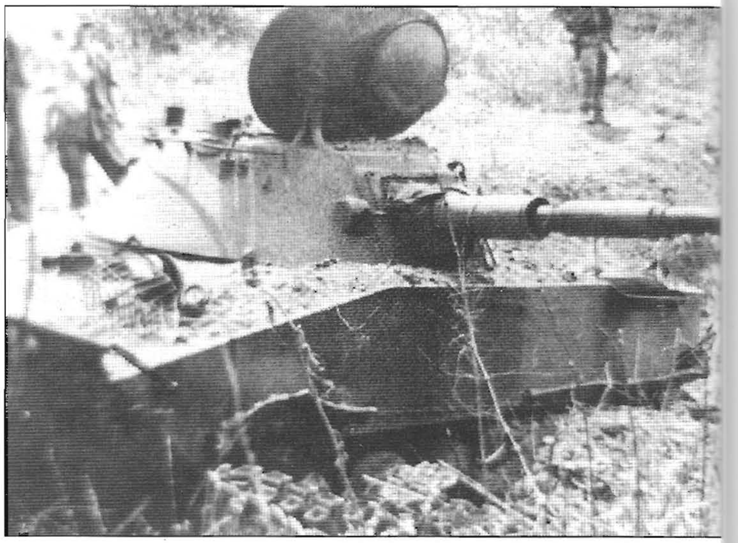
T-34-85s and T-54s of the 202nd Armored Regiment during an exercise in North Vietnam. In the early stages of the conflict, the PAVN doctrine regarding the use of armored forces stated that they could be used only to reduce infantry losses in punctual actions against fortified objectives. The tanks were to be used to open a breach in the enemy defenses, opening the way for the infantry. (Socialist Republic of Vietnam)



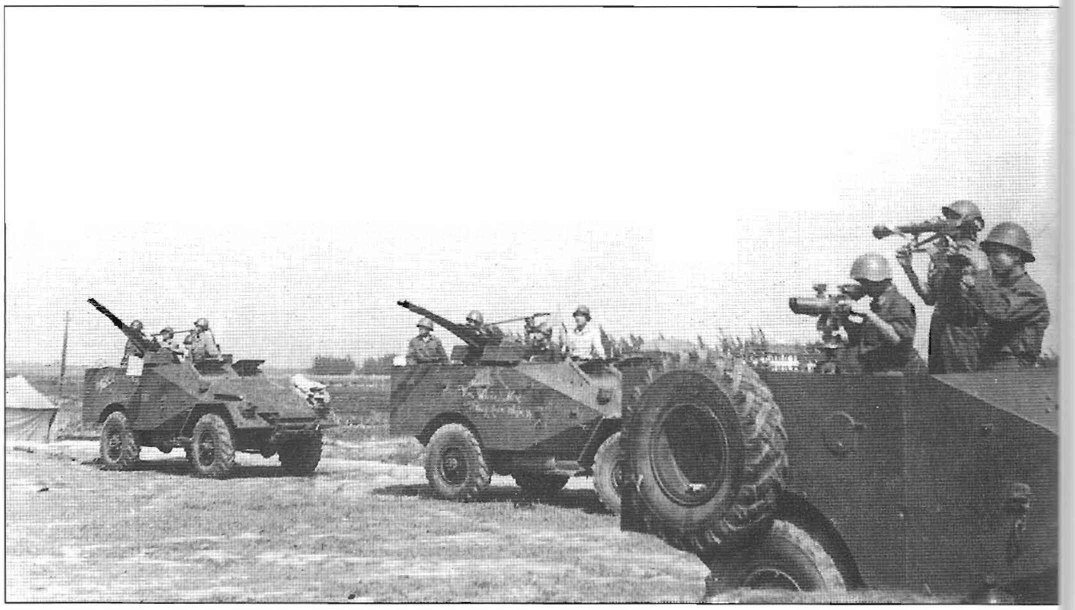
These charging T-34-85s, T-54s and T-54As of the 202nd Armored Regiment, which are without infantry support, demonstrate well the tactics then in use in the PAVN. The tanks operated as a shock force against a fortified enemy infantry, overwhelming it with their speed and firepower. The PAVN paid the price in blood for the lack of infantry support for their tanks in the first massive use of armor in Laos in 1971 and in South Vietnam in 1972. (Socialist Republic of Vietnam)



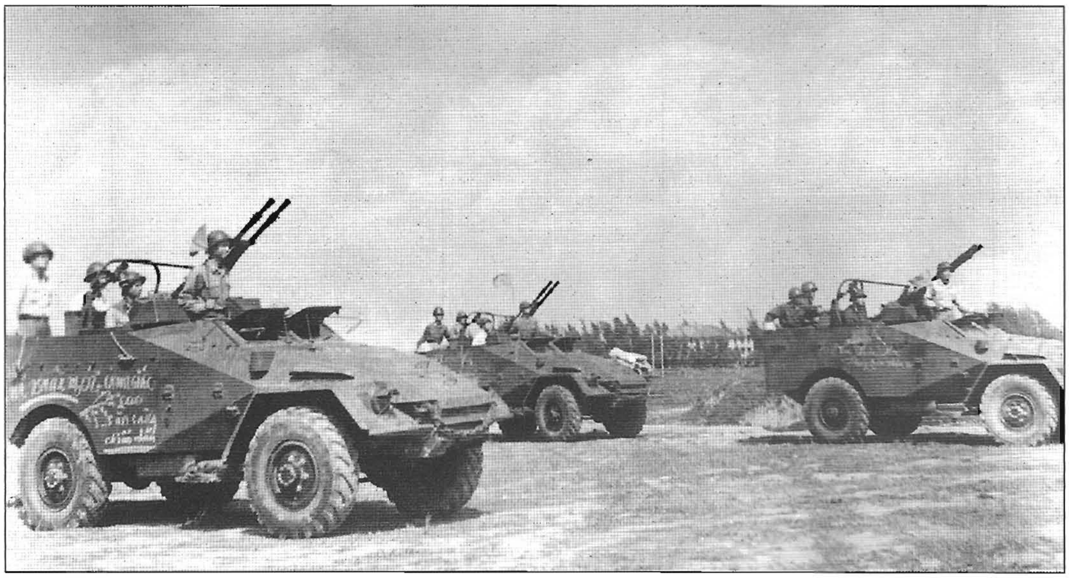
In addition to the T-34-85s and T-54s, the Soviets also delivered PT-76B light amphibious tanks and BTR-50PK APCs to the PAVN. These vehicles belonged to the 198th Armored Battalion of the 202nd Armored Regiment that assaulted the Lang Vei outpost on 28 January 1968. That position was held by Special Forces troops (Green Berets) near the besieged base at Khe Sanh. It was the first action carried out by PAVN armor against American troops. Note that some PT-76Bs are armed with DShK 12.7mm anti-aircraft machine guns on top of their turrets. (Socialist Republic of Vietnam)



On the night of 3 March 1969, the PAVN 16th Company, 4th Battalion of the 202nd Armored Regiment attacked the US Army camp of Ben Het. The assault was repulsed after two PT-76 tanks and a BTR-50 APC were knocked out by the M-48A3s of the 69th Armored Cavalry. Only a single Patton tank was damaged by the North Vietnamese tankers. This PT-76B was found abandoned outside the perimeter of the outpost. (US Army)

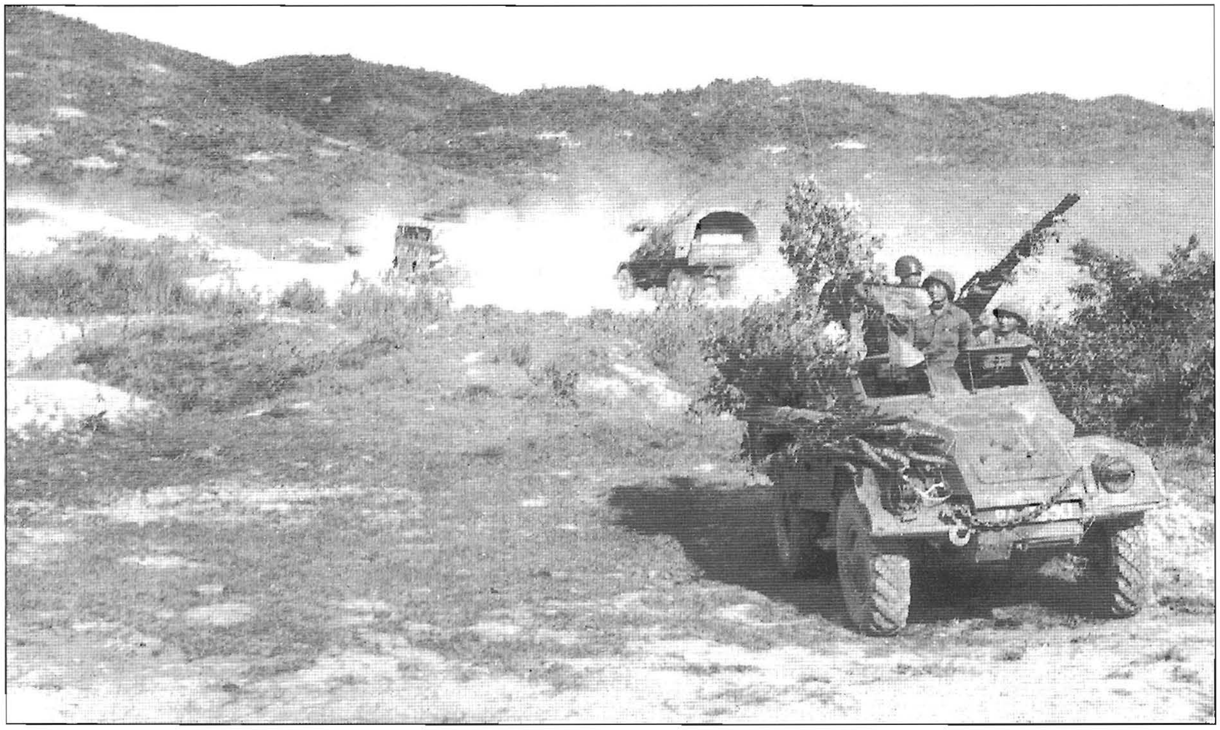


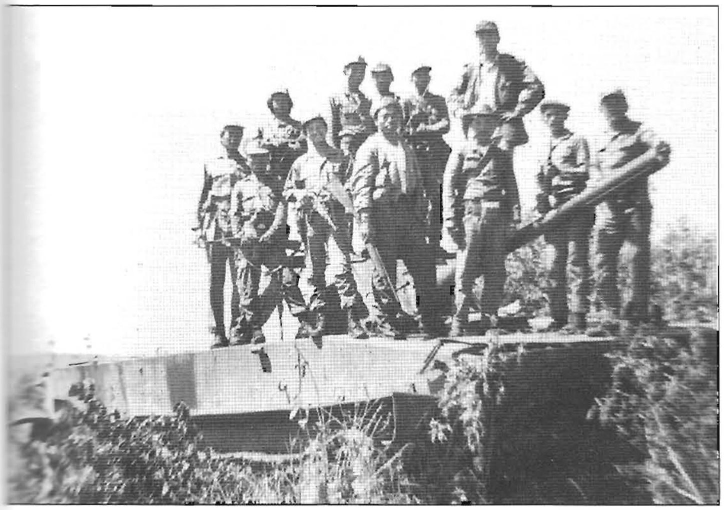
In 1969 the PAVN anti-aircraft artillery units began to receive some BTR-40A vehicles. That is basically a BTR-40 APC armed with twin ZPU-2 14.5mm heavy machine guns. Here two BTR-40As scan the sky with their machine guns. The gun on the command BTR-40 vehicle was replaced by an optical aiming device. Note that the crew wear Soviet and Chinese steel helmets, which were usually issued to anti-aircraft units. (Socialist Republic of Vietnam)



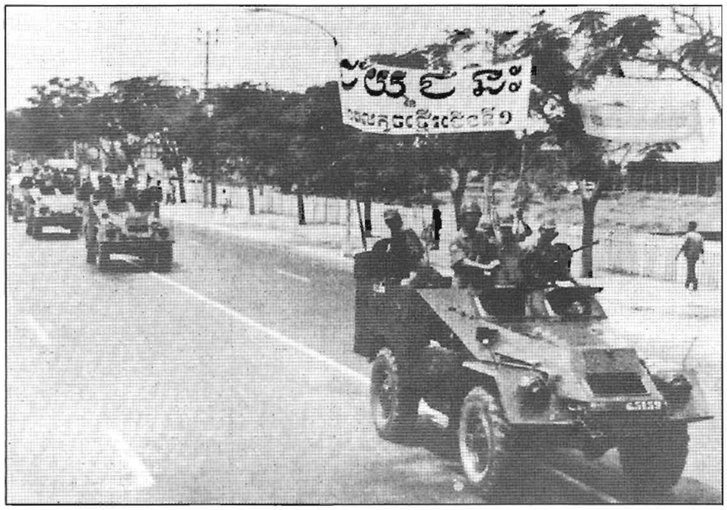
A battery of BTR-40As in position for a firing exercise. Although the vehicles were equipped with radios, they used visual codes with colored signal flags to coordinate their fire. The vehicles have various propaganda slogans written on their sides. (Socialist Republic of Vietnam)

The BTR-40A was usually used to provide anti-aircraft protection to truck convoys traveling along the Ho Chi Minh Trail. Its twin 14.5mm machine guns, firing high velocity ammunition, could be quite effective against low-level targets. Here crew members scan the sky while a convoy of GAZ-63 trucks passes by. (Socialist Republic of Vietnam)

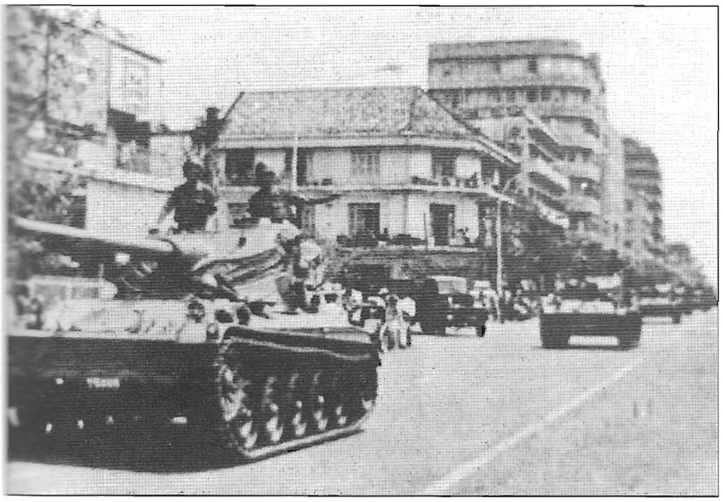




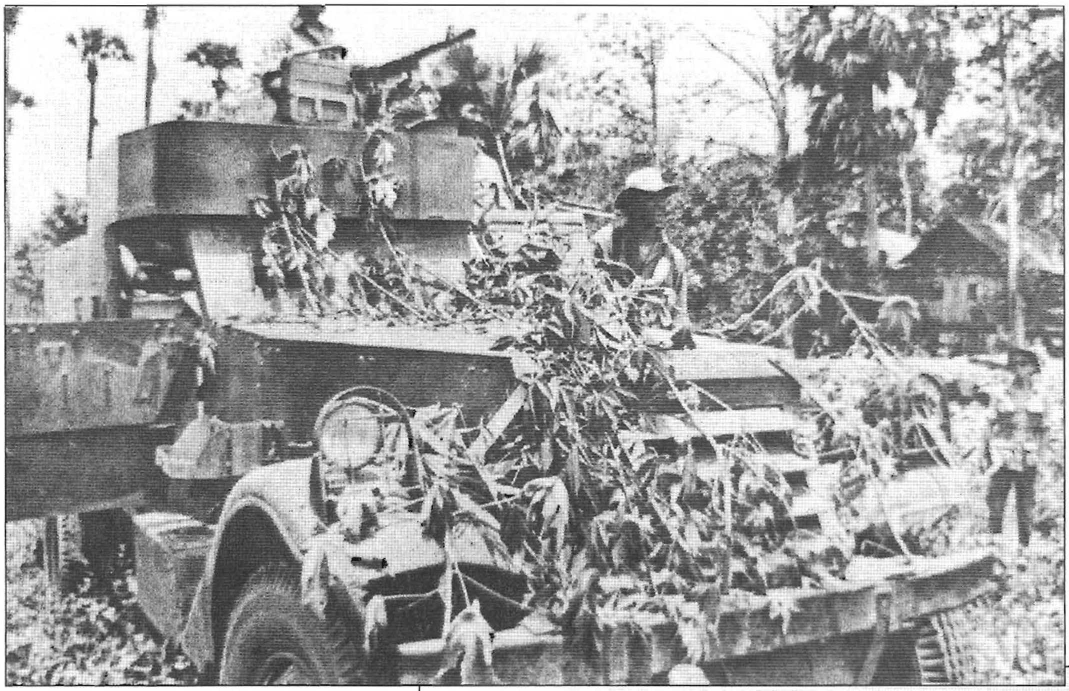
CIA-supported Hmong guerrillas pose with a captured PAVN PT-76B light tank, which was abandoned in the Plain of Jarres in Laos during Operation "Kou Kiet/About Face" in September 1969. The vehicle belonged to the 195th Independent Tank Company that was attached to Front 959, which ran operations in northern Laos. The entire complement of PT-76Bs of the unit was lost due to a lack of fuel. The vehicle is an early-production series with the D-56T gun and multi-baffle muzzle brake. (Ken Conboy collection)



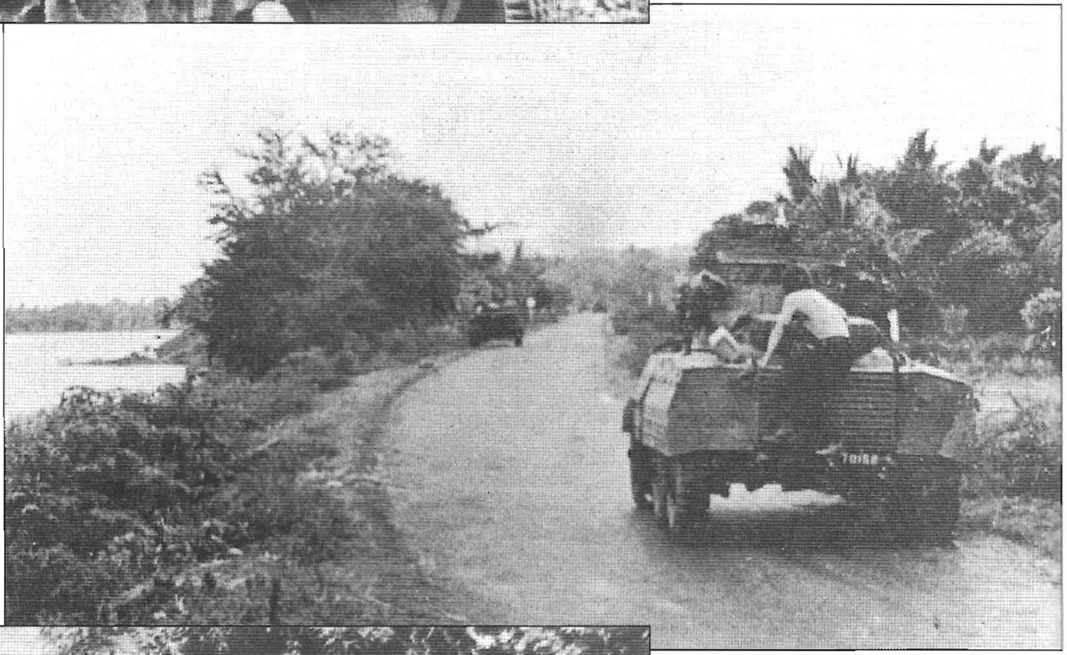
The Cambodian civil war erupted in April 1970 when Prince Sihanouk was deposed. The new Khmer Republic then mobilized its forces to face a wide-scale North Vietnamese offensive. Here a column of troops rolls enthusiastically to the front just outside Phnom Penh. Leading a convoy of Soviet GAZ-63 trucks are BTR-40 armored cars from the FANK I Armored Brigade. The armor of this unit supported the 1st Infantry Brigade in Operation "Vihear Souor", a counterattack aimed at driving the PAVN away from the Cambodian capital. The BTR-40s, which were lightly armed with two SGMB 7.62mm machine guns, were used as reconnaissance vehicles. (Darasy Var Collection)



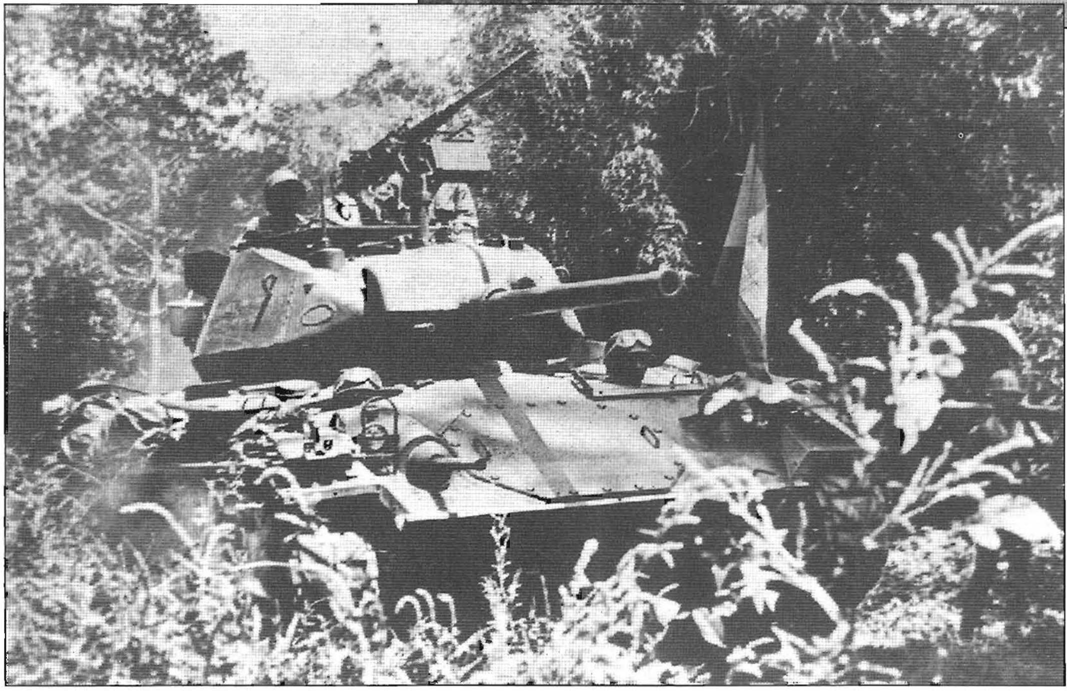
This column of AMX-13 light tanks of the FANK I Armored Brigade is leaving Phnom Penh to participate in a counterattack against the advancing North Vietnamese in April 1970. Cambodia acquired its first AMX-13s in 1964 in an effort to counter the South Vietnamese armor. They were finally engaged in combat six years later against the Communist forces. These tanks are still painted with the old Kingdom of Cambodia flag on the front of the hull. (Darasy Var Collection)



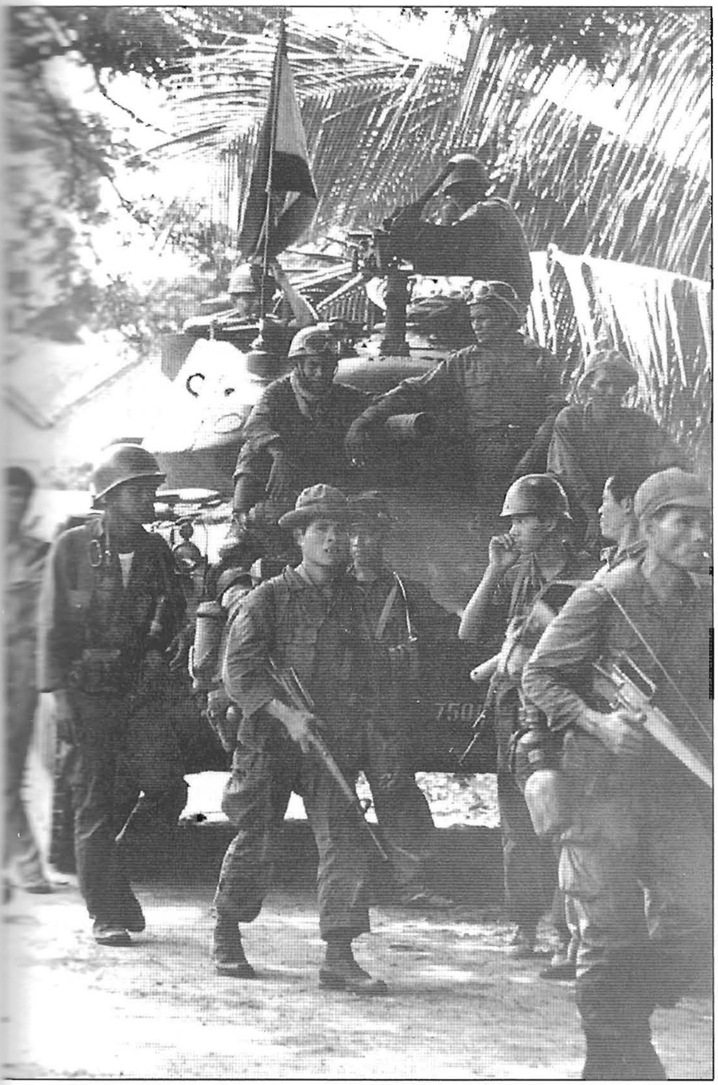
This M-3 Scout Car of the FANK I Armored Brigade at Ro Ang was photographed on 5 April 1970 near Kompong Cham on the west bank of the Mekong River. The vehicle was locally modified with the installation of a Soviet SGMB 7.62mm machine gun instead of the usual M-2 Browning .50 caliber machine gun. (Darasy Var Collection)



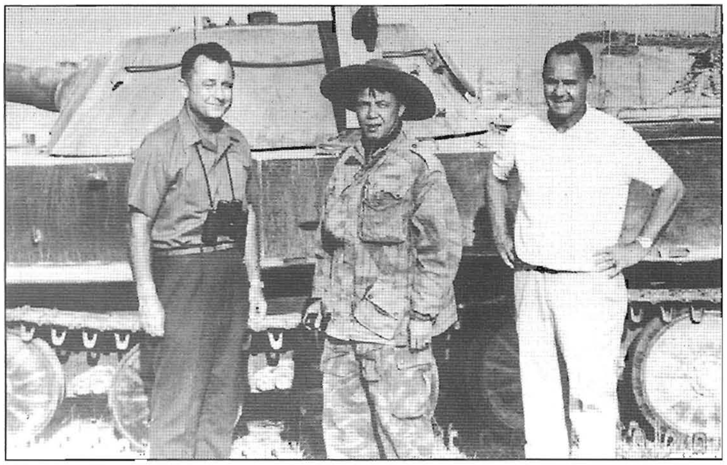
A pair of FANK M-8 armored cars open the road to Saang in May 1970. The town was besieged by the PAVN for over a month. The M-8 was used alongside modern French Panhard AML-60 and AML-90 vehicles. (Darasy Var Collection)



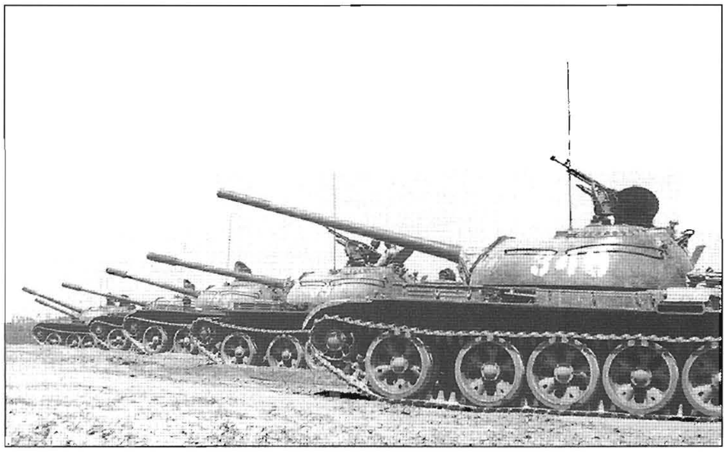
A FANK M-24 tank is shown here during a drive against the North Vietnamese forces outside Phnom Penh in May 1970. Note that the vehicle still displays the old Kingdom of Cambodia flag though the republic had been proclaimed some weeks earlier. (Darasy Var Collection)



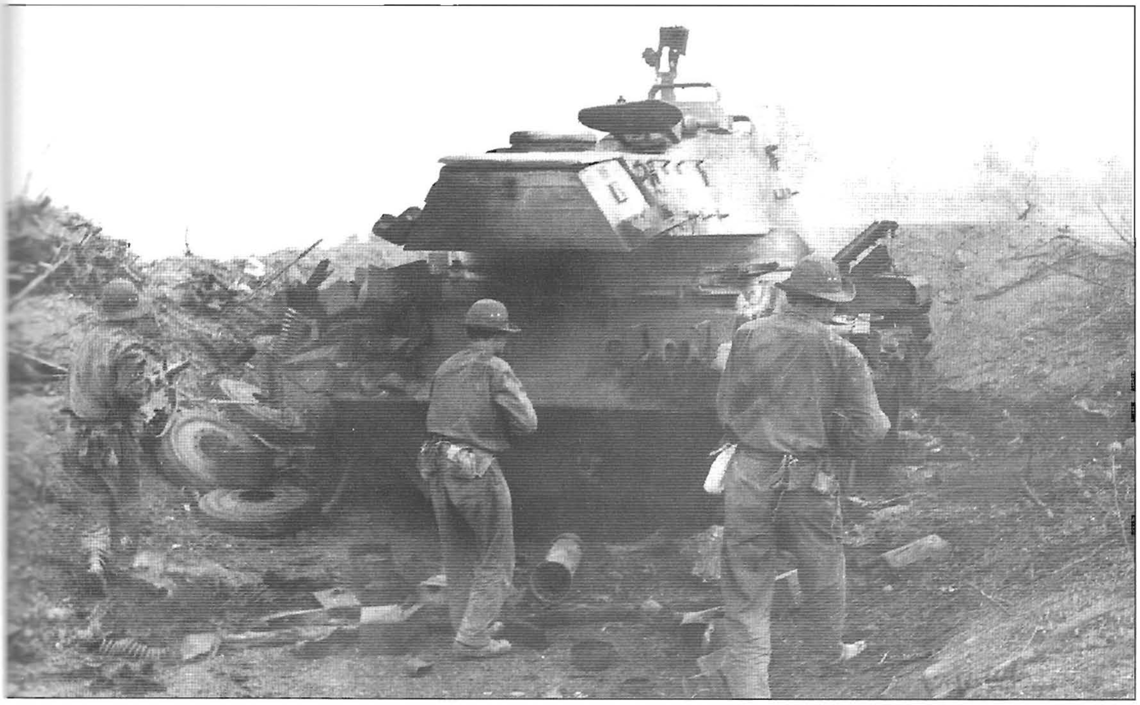
A FANK M-24 Chaffee supporting a battalion of Khmer Krom that had just arrived from Saigon in September 1970. The Khmer Krom are ethnic Khmers living in South Vietnam and had fought for years under the control of US Special Forces. They are armed with up-to-date M-16 rifles. The tank crew had French style pattern helmet and had AK-47 rifle. Note the old Kingdom of Cambodia flag still in use at this late date. (Darasy Var Collection)



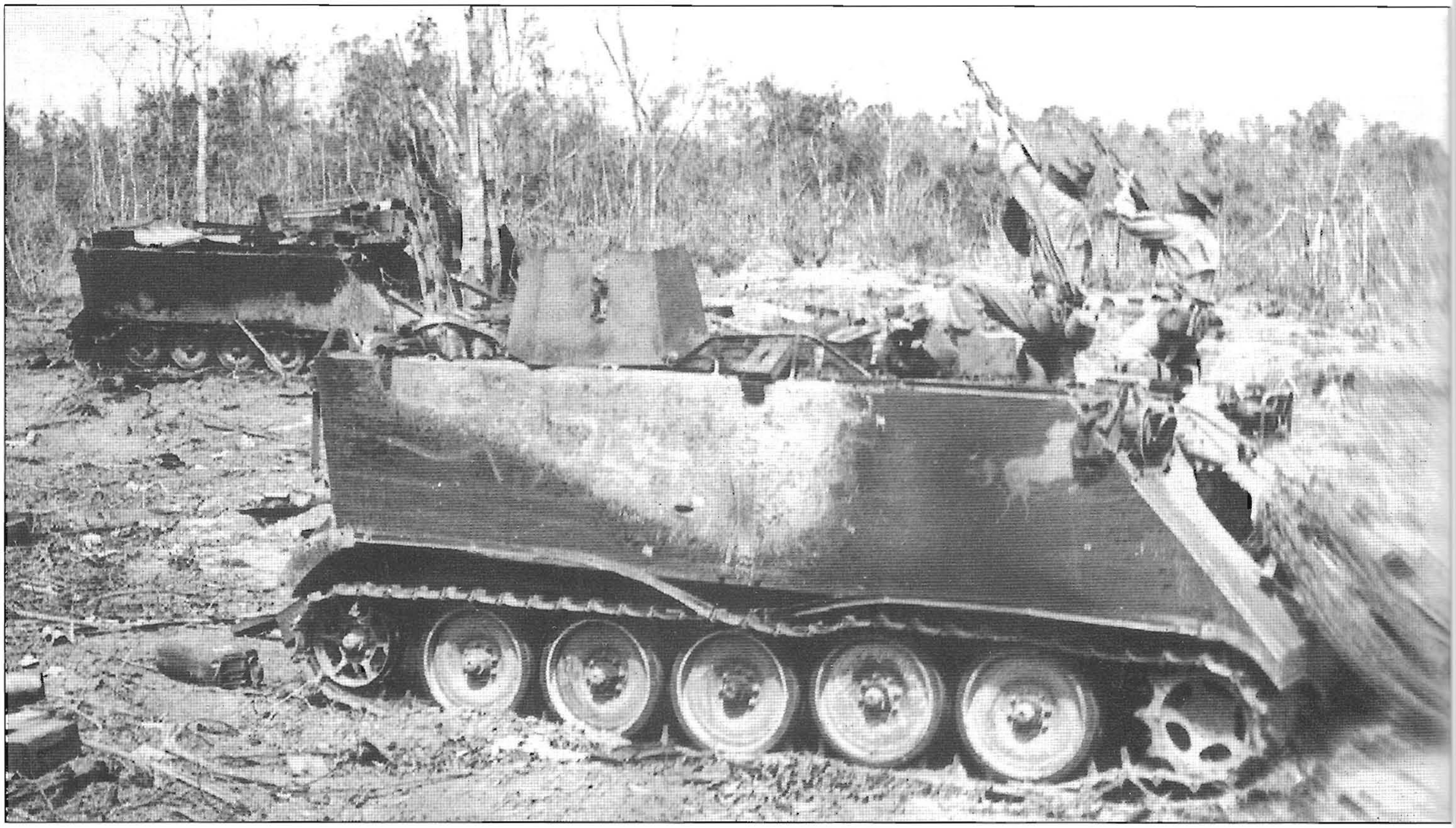
The lack of armored support on the part of the regular Laotian Army forced the Hmong guerrillas to use captured PAVN PT-76B tanks. Once repaired the sabotaged Communist vehicles engaged in the Plain of Jarres as part of the offensive during the 1970 wet season. This rare photograph shows a Hmong guerrilla tank crew member posing proudly beside his tank with two CIA case officers wearing civilian clothes. (Ken Conboy Collection)



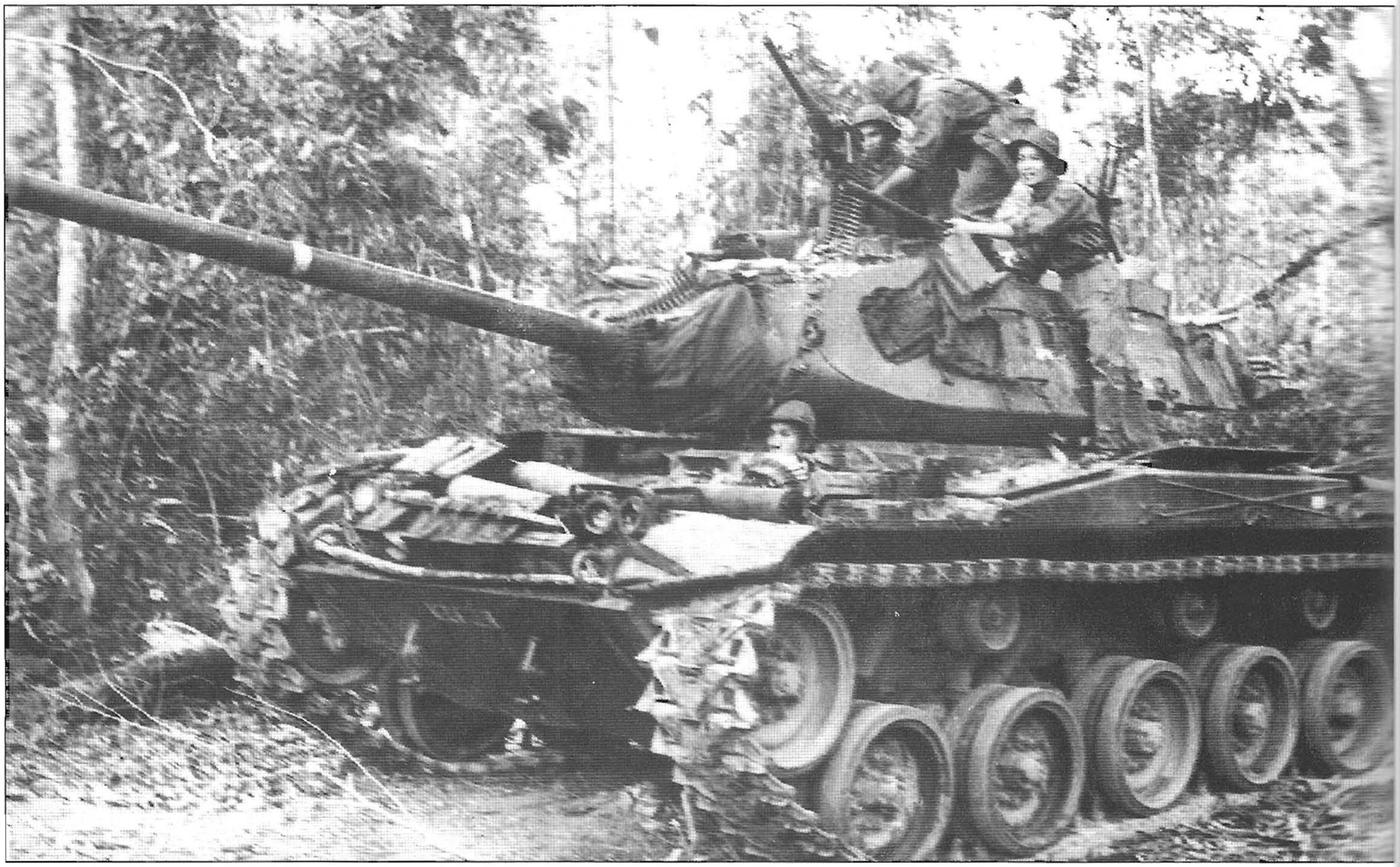
It was during Operation "Lang Son 719", the ARVN attempt to cut the Ho Chi Minh Trail, that the PAVN entered its T-54 tanks into combat for the first time. These T-54s and T-54As of the 202nd Armored Regiment were prepared to be deployed to Laos. At least three battalions of T-54s and PT-76s were attached to Army Corps 70B that led the counterattack and drove the ARVN back over the South Vietnamese border. (Socialist Republic of Vietnam)



At the end of February 1971, the PAVN succeeded in taking Landing Zone 31, a position held by ARVN M-41 tanks. Three PAVN T-54s reached the summit of the position, opening the way for an infantry assault. These North Vietnamese troops are shown advancing toward a burned-out M-41A3 from the ARVN I Armored Brigade. The vehicle was probably hit by an artillery round. (Socialist Republic of Vietnam)

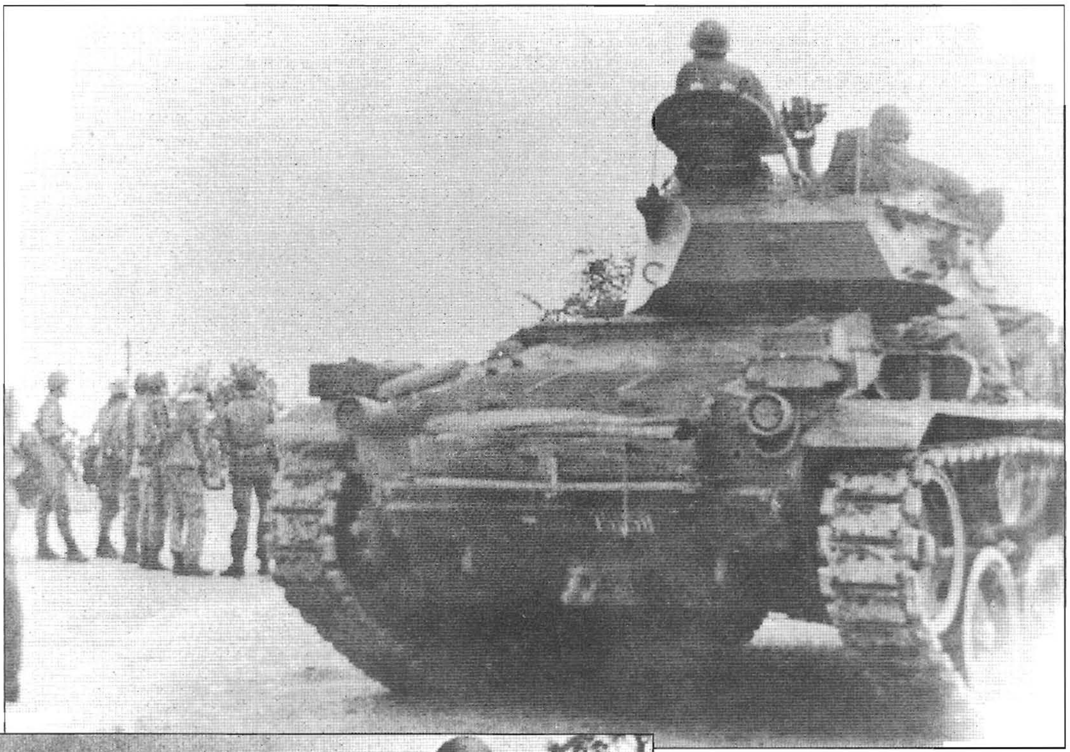


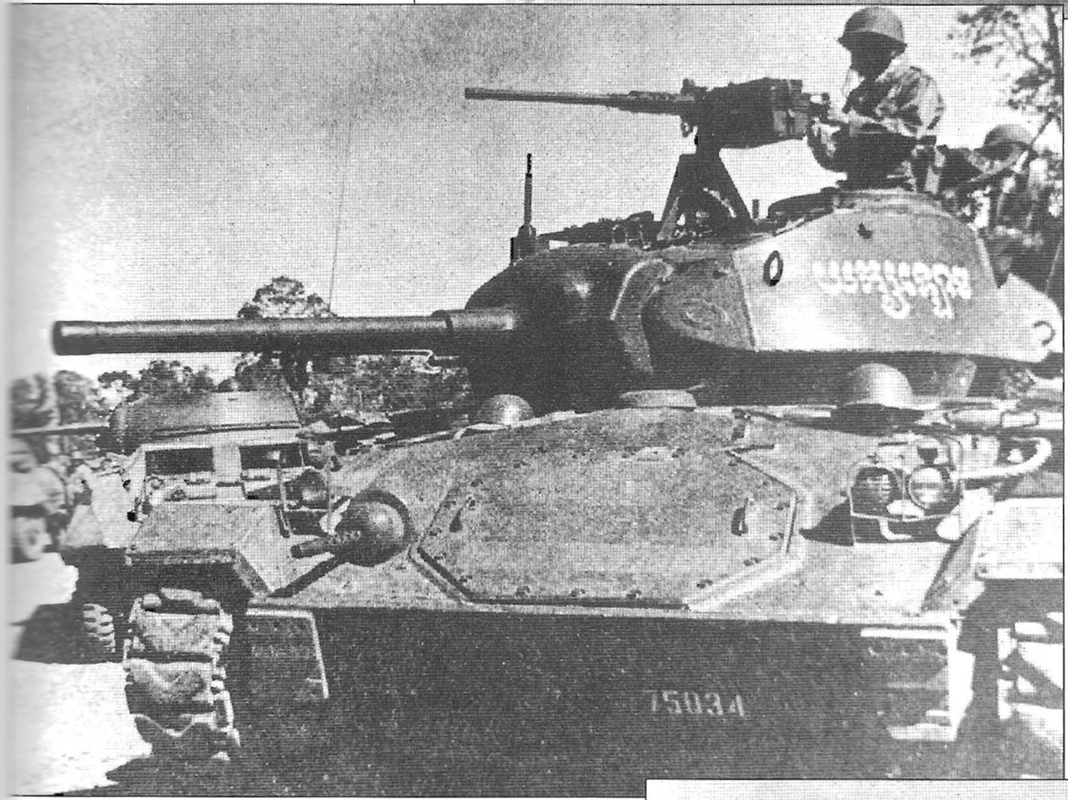
The ARVN was forced to fall back to the South Vietnamese border at the end of February 1971, after the failure of Operation "Lang Son 719". Poor coordination between armored units and infantry, parachute, and Marine troops transformed an orderly retreat into a rout. Nearly all the vehicles of the I Armored Brigade, such as these two burned-out M-113 APCs, were lost. The PAVN soldiers sitting atop the M-113 in the foreground aim their rifles skyward at the appearance of a reconnaissance helicopter. (Socialist Republic of Vietnam)



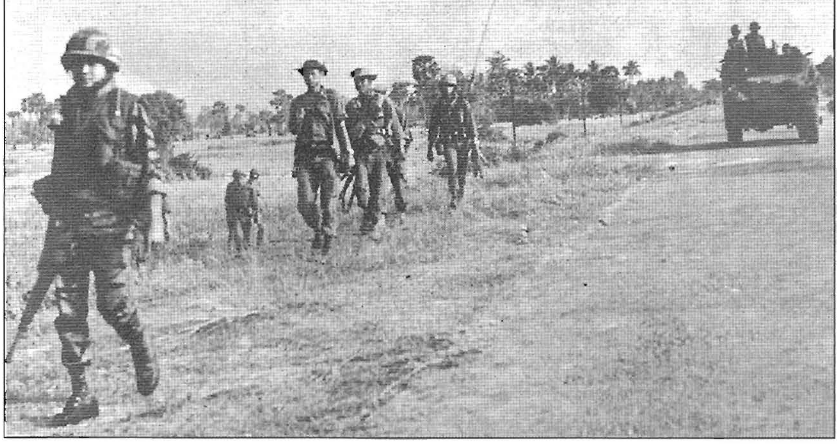
This M-41A3 from the ARVN I Armored Brigade was captured by the North Vietnamese east of Aloui in February 1971. It was immediately put to use by the PAVN alongside their PT-76s and T-54s. During Operation "Lang Son 719", the ARVN M-41A3s proved to be superior to Communist armor in the first major tank-versus-tank combat of the war. It appeared that South Vietnamese crews were better trained than those of the PAVN, notably in long-range shooting. (Socialist Republic of Vietnam)

An M-24 Chaffee belonging to the Forces Armées Nationale Khmere (FANK) I Armored Brigade, which supported infantry at Batheay in January 1971. The M-24 was greatly appreciated by the Cambodians despite the fact that its thin armor made it vulnerable to RPG-2/RPG-7 shaped-charge anti-tank rockets. (Darasy Var Collection)

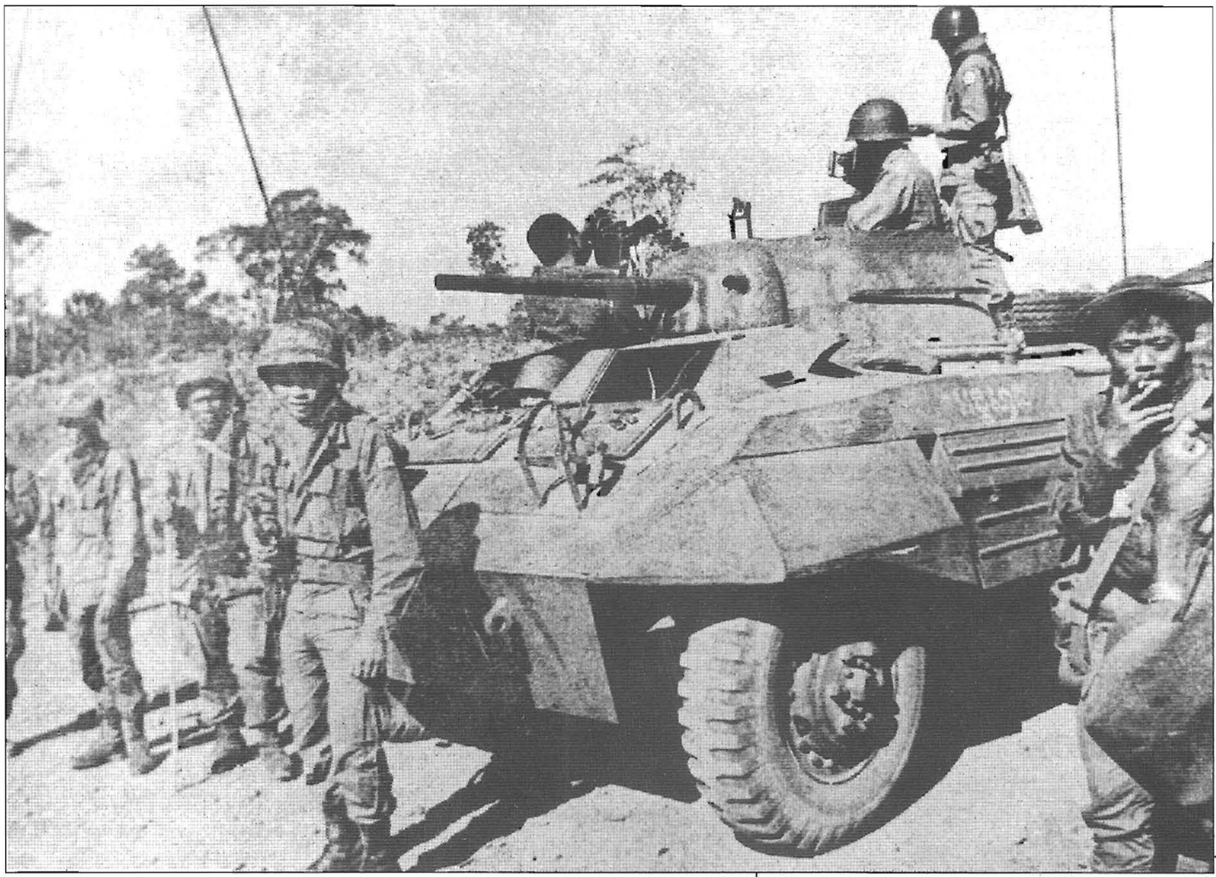




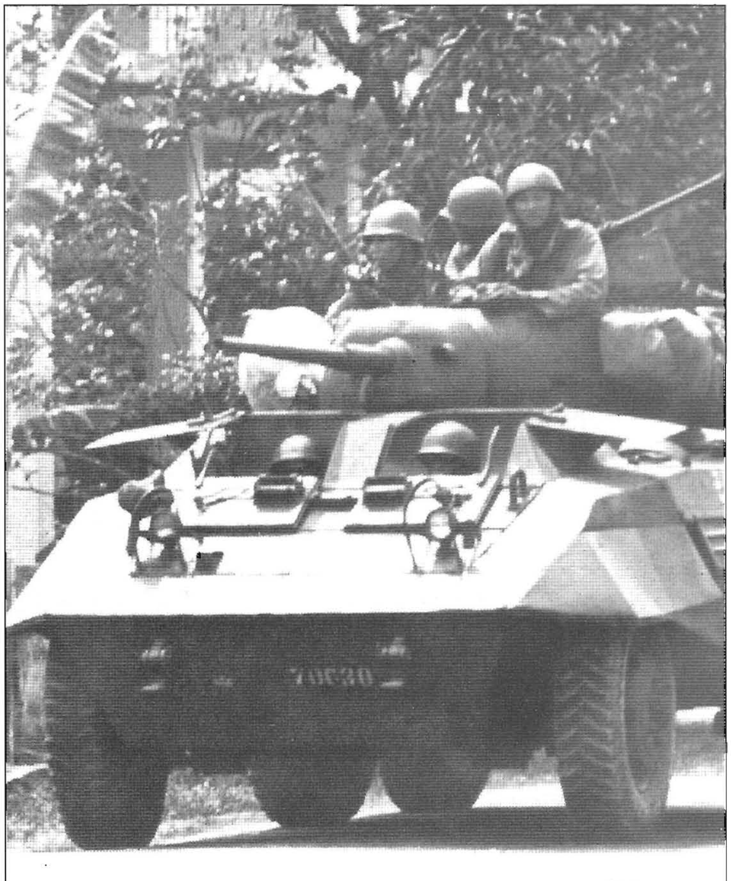
FANK M-24 and M-8s engage North Vietnamese troops along a road near Battambang. Twenty years earlier the PAVN faced Chaffee tanks and M-8s when fighting the French. The Khmer continued to use obsolete equipment throughout the conflict as Washington refused to deliver more modern vehicles such as the M-41 Walker Bulldog. (Darasy Var Collection)



A column of troops belonging to the FANK I Parachute Brigade advances along a road with the support of an M-3 Scout Car. This lightly armored car was usually confined to paved roads. Its lack of mobility in rough terrain limited its usefulness. (Darasy Var Collection)

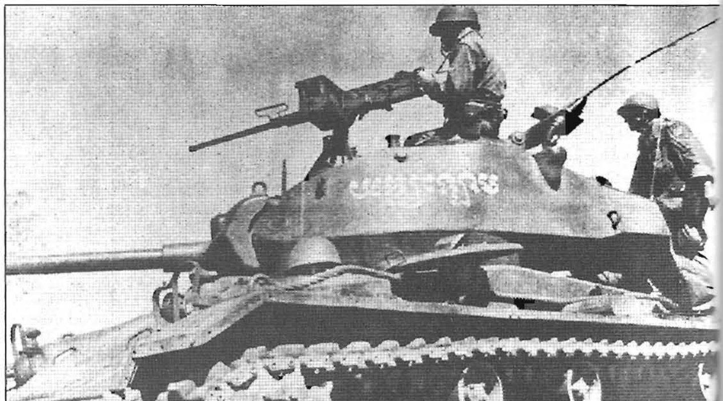


A Khmer M-8 reconnaissance car during a pause in the advance along Route 4 in 1971. Even such an obsolete vehicle as this was still useful against lightly armed Khmer Rouge guerrillas. The vehicle has a spare tire on the engine deck behind the turret. (Darasy Var Collection)



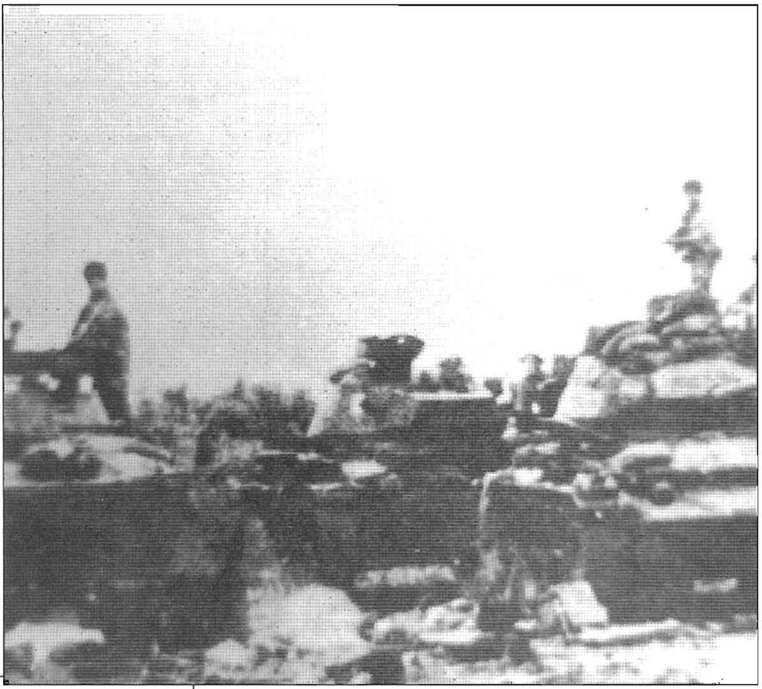
A FANK M-8 in patrol in the out-skirt of Phnom Penh in 1971. The obsolete vehicle was still very useful in security and convoy escort operations. It shared these tasks with some Soviet built BTR-40 and French Panhard AML-60/90. (Darasy Var Collection)

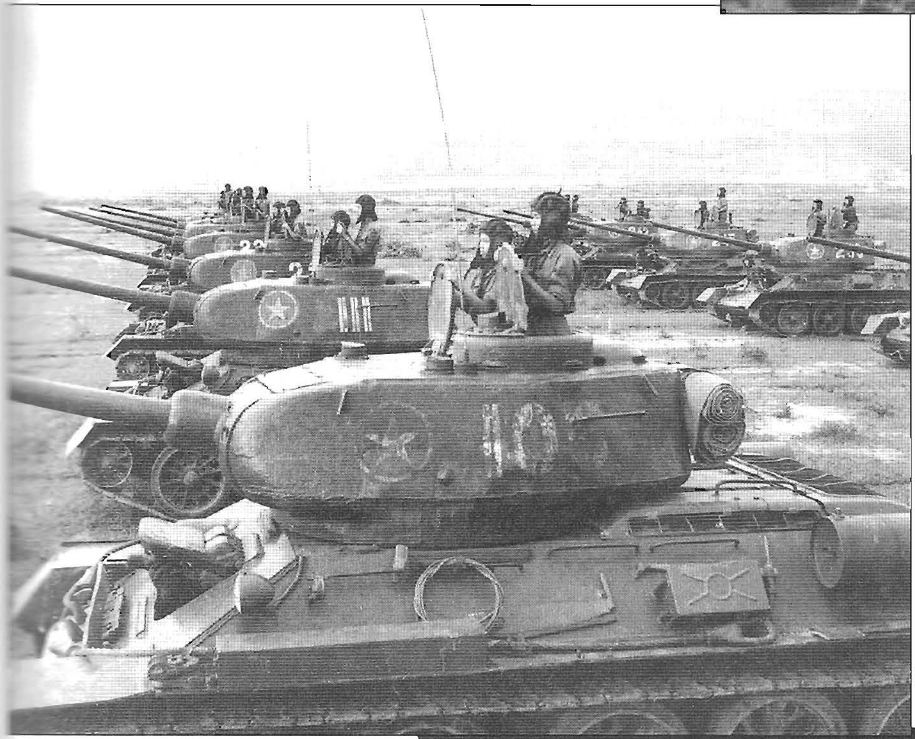
Two M-3 Scout Cars of the FANK I Armored Brigade on patrol ahead of a truck convoy in 1971. The Cambodian armored forces suffered heavy casualties with its obsolete vehicles. (Darasy Var Collection)



A FANK M-24 tank engages fleeing Khmer Rouge guerrillas with its .50 caliber machine gun. The last Chaffees were withdrawn from service in 1974 due to a lack of spare parts. (Darasy Var Collection)

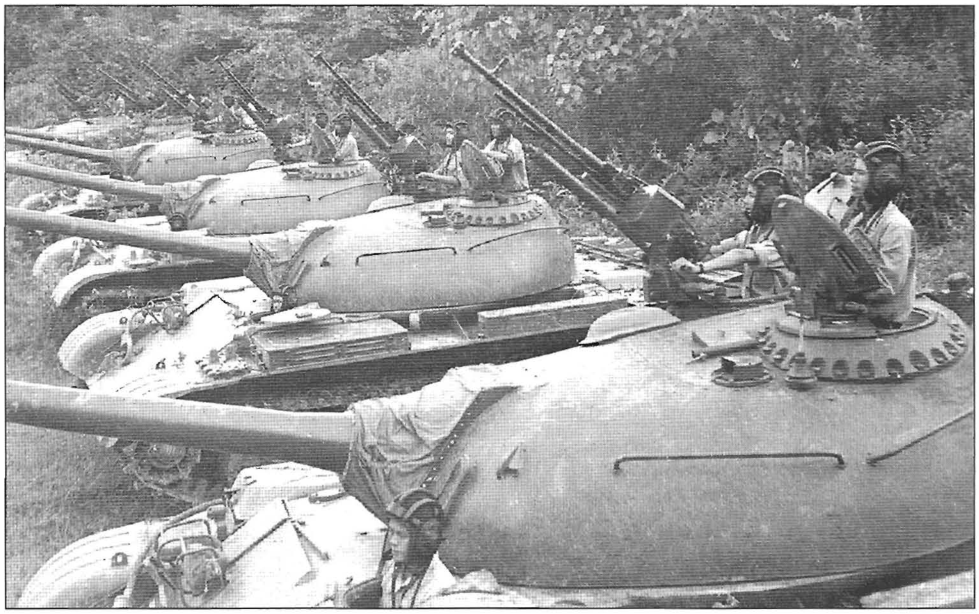
A poor quality but very rare photo showing Khmer Rouge guerrillas inspecting FANK M-24 and M-8 they just had knocked out. Initially poorly equipped, the Khmer Rouge later received modern anti-tank weapons such as the RPG-2 (B-40) that proved very effective against the lightly armored FANK vehicles. (Darasy Var Collection)



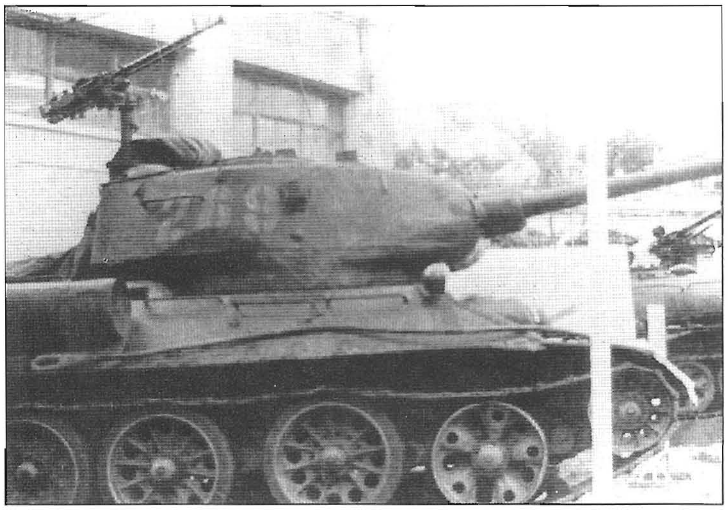


T-34-85s of the 202nd Armored Regiment are lined up for a review in 1971. The vehicles, which feature new starfish wheels and reinforced mounting for the external fuel tanks, are from a rebuilt series. Some vehicles were also equipped with the FG-100 infra-red headlight for night driving. The rugged and easily maintained T-34-85 served with the PAVN until the end of the conflict. Some of them are still used for training today. (Socialist Republic of Vietnam)

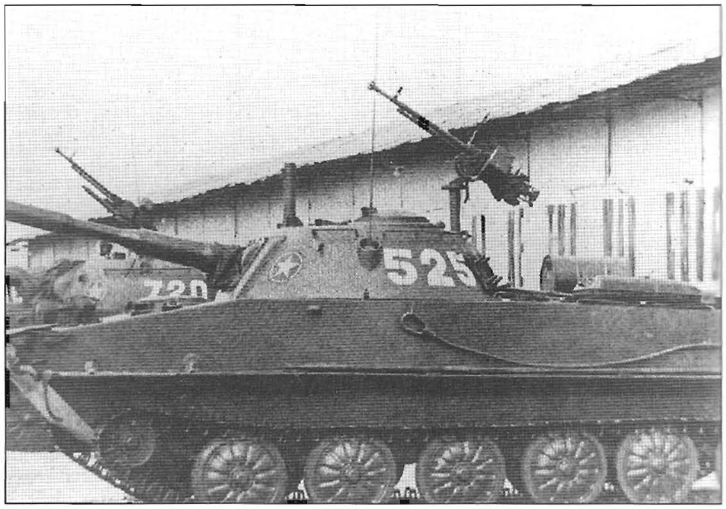
A PAVN unit equipped with T-34-85s undergoes some night training. The complete air supremacy enjoyed by the US forced the North Vietnamese to rely on night-fighting tactics. The few occasions when the PAVN engaged its armor against US forces took place at night. (Socialist Republic of Vietnam)



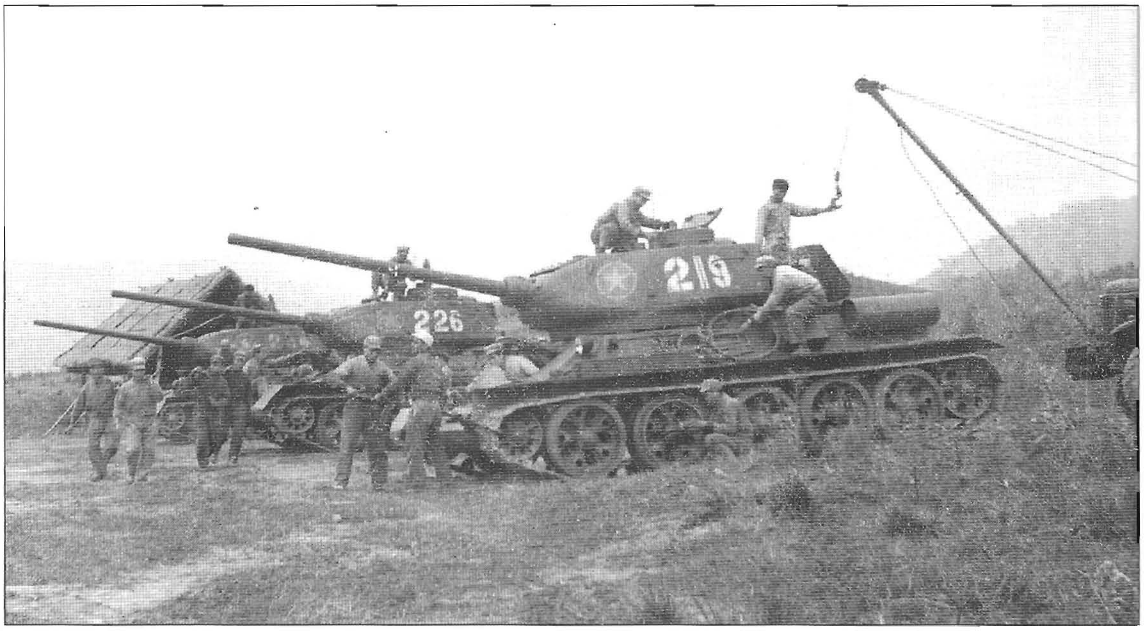
A close-up view of PAVN T-54s, Model 1951, with the Mk-4 periscope in front of the commander's station. The loader's hatch is equipped with a mounting for the DShK 12.7mm anti-aircraft machine gun. The gun is the 100mm D-10T, which could deal reasonably well with the US M-48 Patton. (Socialist Republic of Vietnam)



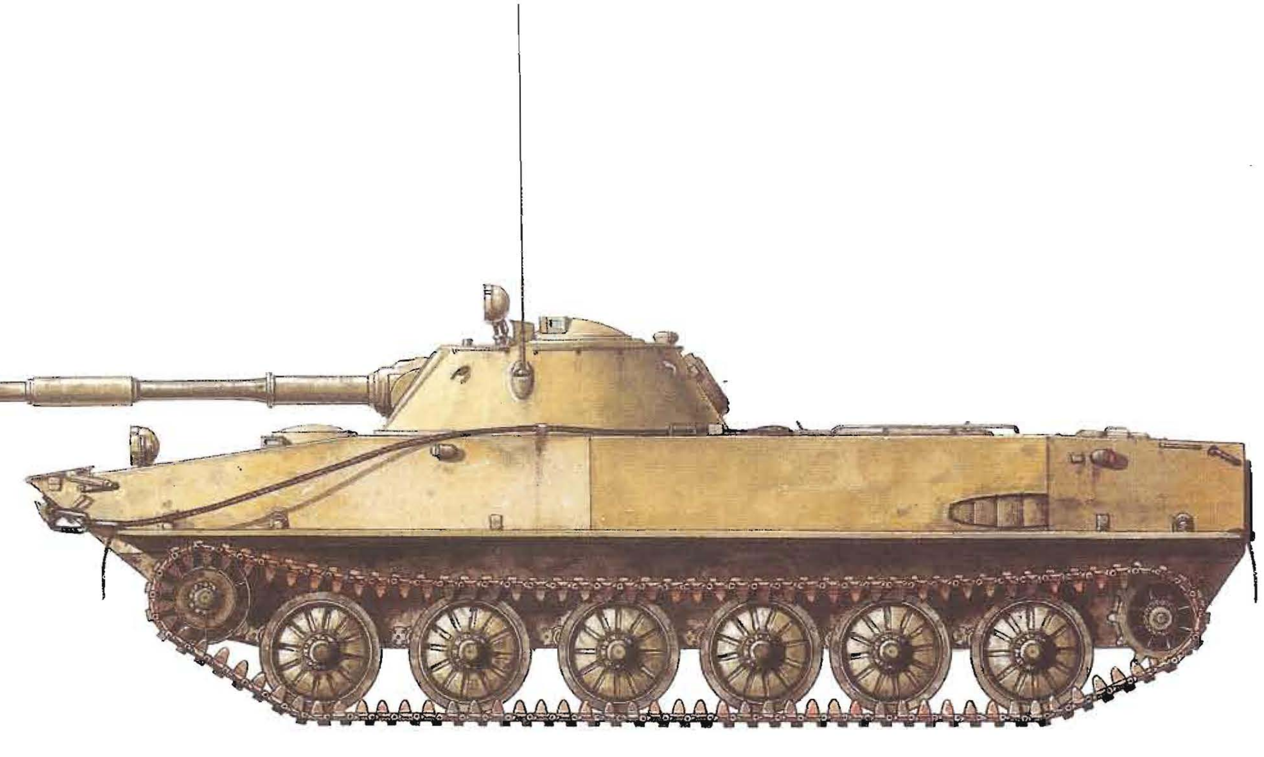
In order to improve the anti-aircraft defense of the T-34-85, the PAVN workshops installed a pintle-mounted 12.7mm machine gun on the turret. The weapon could be used only by a crew member standing outside on the engine deck in a very vulnerable position. Note that the vehicle seen here has no less than three different type of wheels: the original concave wheel at the far left of the picture, the spooked wheel introduced in the late World War II model and the starfish wheel built in the early 1970s. (Socialist Republic of Vietnam)



This same kind of pintle-mounted 12.7mm machine gun was also installed on the PT-76 amphibious tanks. This modification was rarely done because it was very unpopular with the PAVN tank crews. (Socialist Republic of Vietnam)

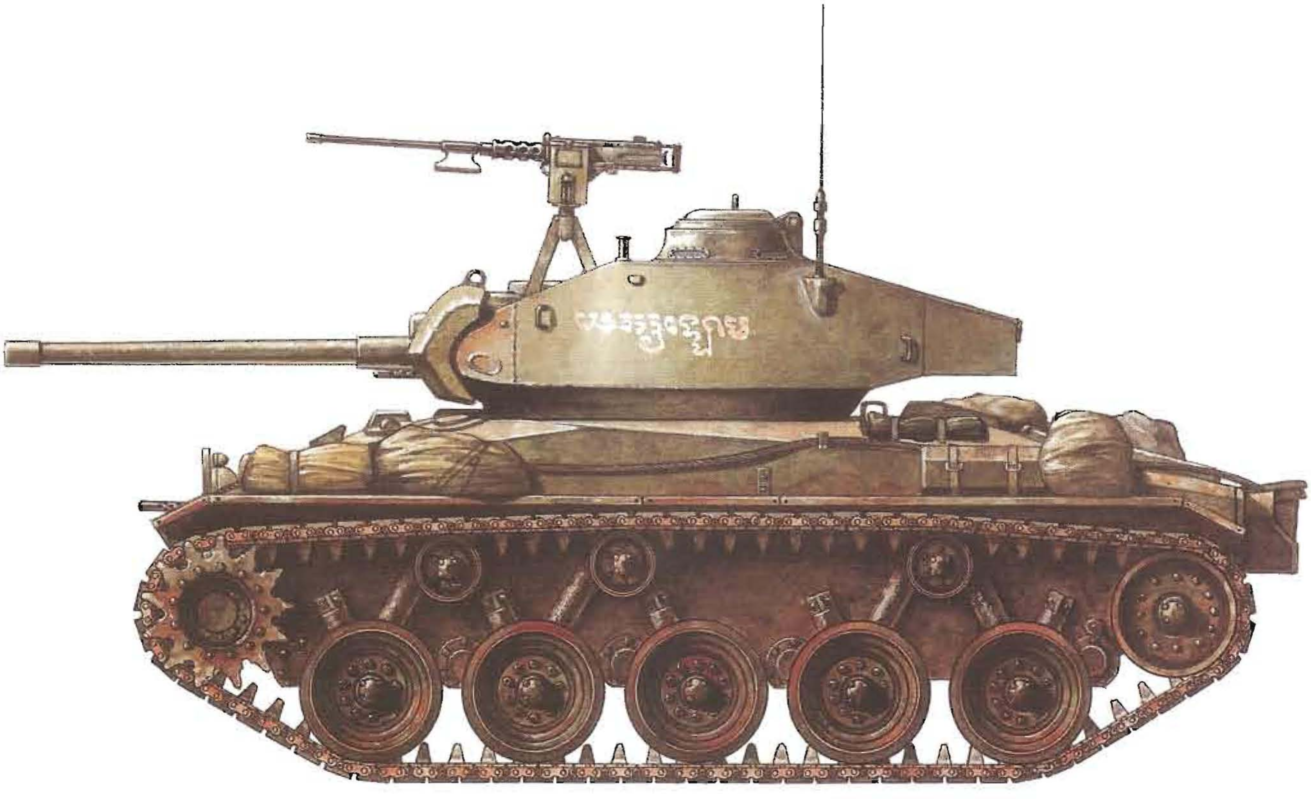


PAVN mechanics service their T-34-85 tanks in the field. A crane mounted on a ZIL-157K truck is being lowered to pick up the dismounted 500 HP V-34-M11 engine. (Socialist Republic of Vietnam)



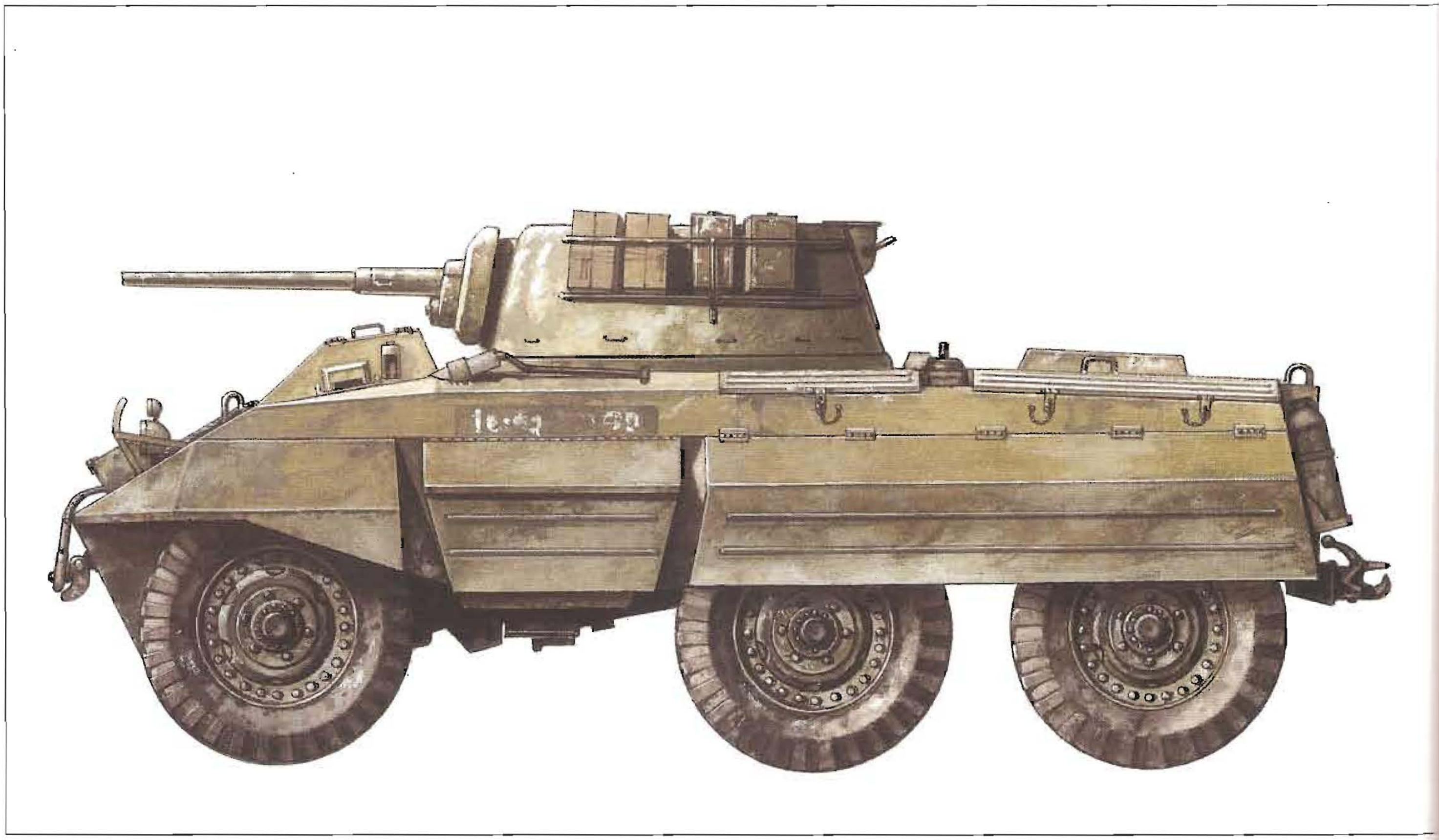
PT-76PB, PAVN 16th Company, 4th Battalion of the 202nd Armored Regiment, Ben Het, March 1969

On the night of 3 March 1969, the Ben Het Special Forces camp was attacked by a dozen PAVN PT-76PBs and an equal number of BTR-50PK APCs. The North Vietnamese armor was repulsed by a platoon of M-48s from the 1st Battalion, 69th Armor. This was the only occasion when American tanks engaged the North Vietnamese armor. This PT-76PB was one of the two found abandoned outside the perimeter of the outpost. The vehicle had all tactical markings and code numbers removed to hide the true identity of the unit to US intelligence.



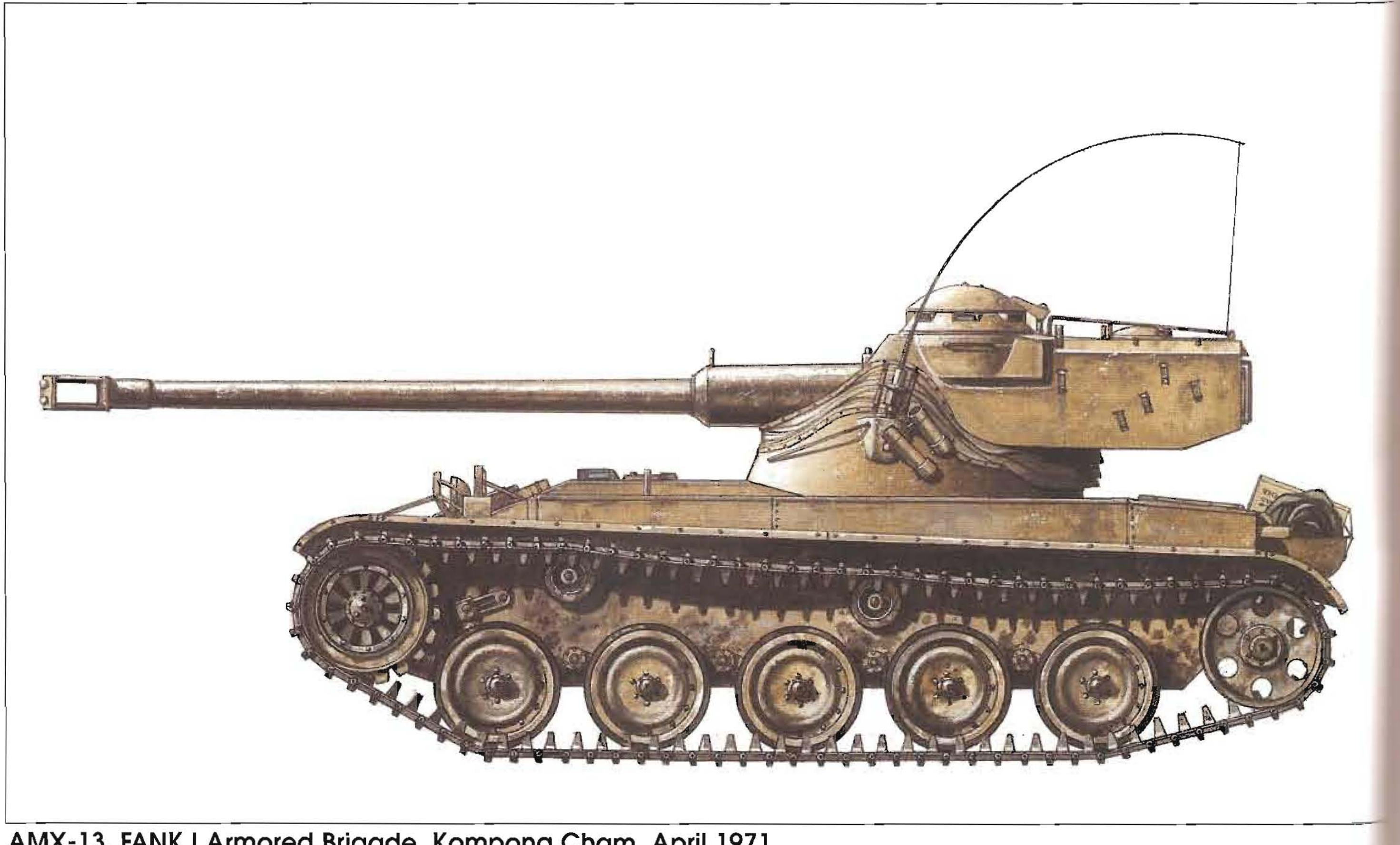
M-24 Chaffee, FANK I Armored Brigade, Kompong Thom, February 1971

The neutral Cambodia entered war in April 1970 with a mix of obsolete and relatively modern equipment from various sources such as France, Soviet Union and U.S.A. At that date, about thirty M-24s delivered in 1956 are still in service. Lightly armored, they suffered heavy losses to modern anti-tank weapons, such as the RPG-7 (B-41) that equipped the Communist forces. According to French practice the vehicle carried the name of a town or a famous battle. The name of the city of Yeak Lom is painted on the turret.



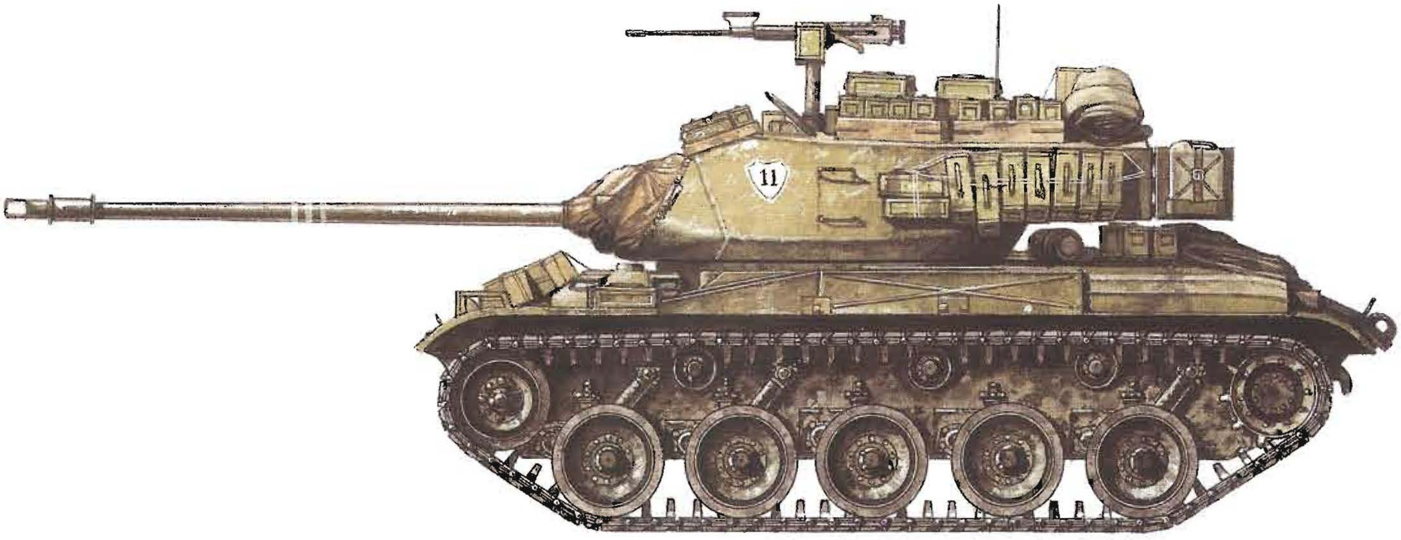
M-8, FANK I Armored Brigade, Battambang, February 1971

The Cambodian still used this obsolete reconnaissance vehicle alongside French Panhard AML-60 and AML-90. Against lightly armed Khme Rouge guerrillas, the M-8 was still useful. This was not any more the case when the Communist forces received modern anti-tank weapons. The name painted on the side of the hull is Kra Lanh, a town where the Cambodians defeated a strong Khmer Issarak force during the Indochin War.



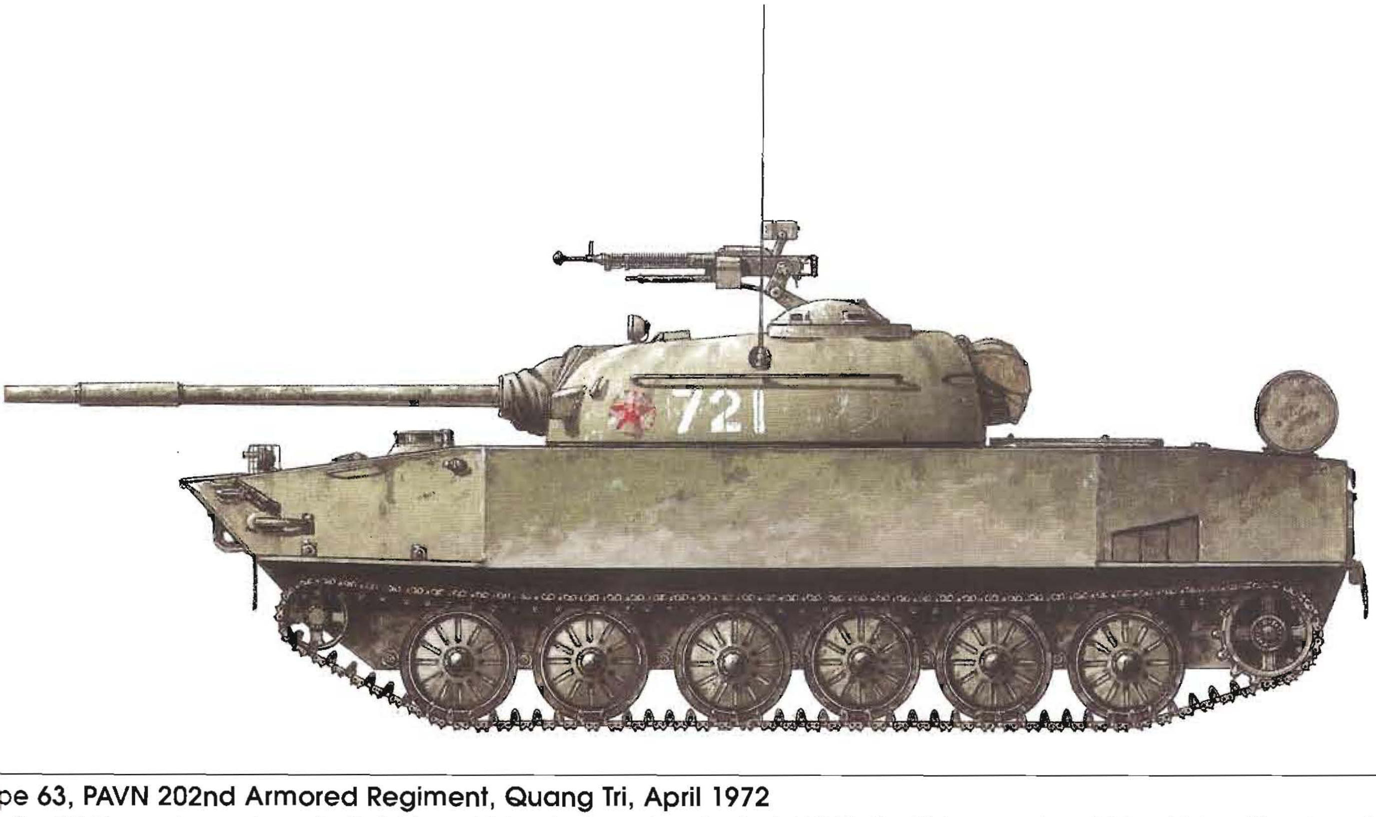
AMX-13, FANK I Armored Brigade, Kompong Cham, April 1971

Cambodia received 36 AMX-13s from France in 1964 to counter ARVN M-41s. Instead, this lightly armored tank was used six years against Communist guerrillas, a role that it coped with only limited successes.



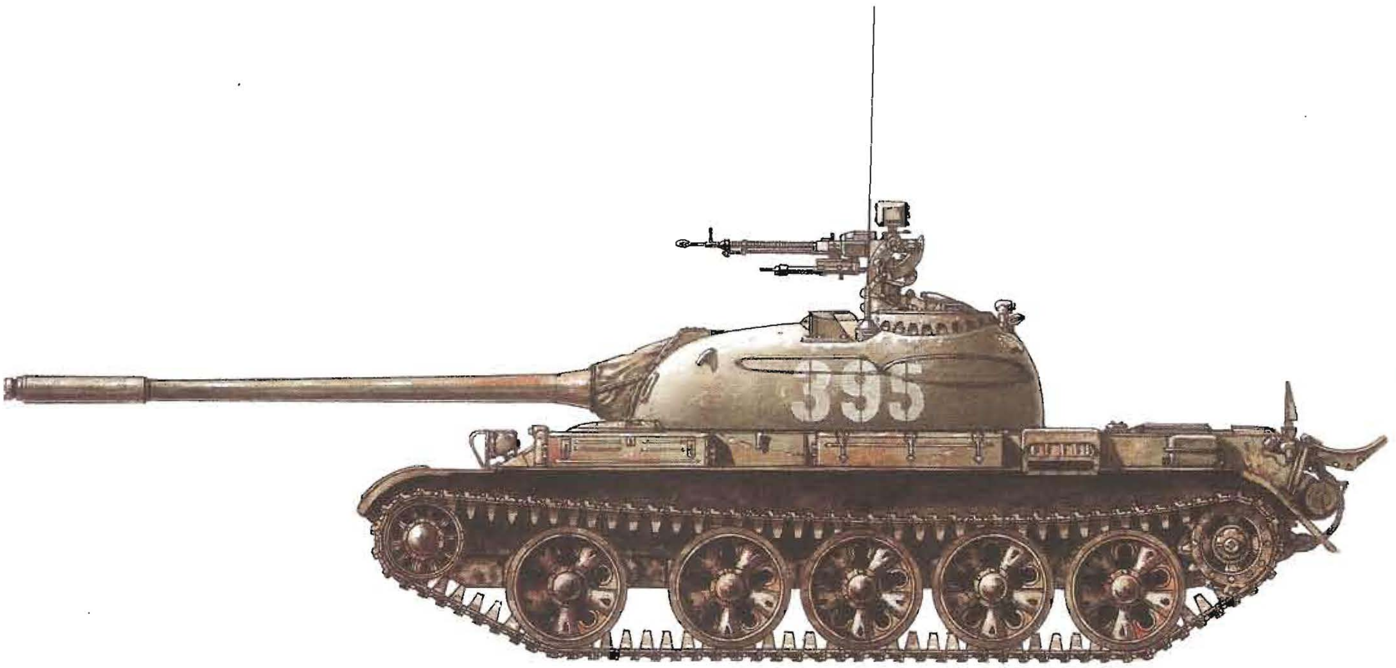
M-41A3 Walker Bulldog, ARVN 11th ACR/I Armored Brigade, Dong Ha, April 1972

After holding a defense line along the Cam Lo River for more than two weeks, the ARVN 7th and 11th ACRs from the I Armored Brigade were outnumbered and were forced to withdraw south of Dong Ha. Severe losses had been inflicted to PAVN tanks during the battle by the Pattons of the 20th Tank Regiment and also by the M-41A3s which equipped most ARVN units. The front and the turret of this vehicle were covered with empty ammunition boxes filled with sand to detonate shaped charge rockets.



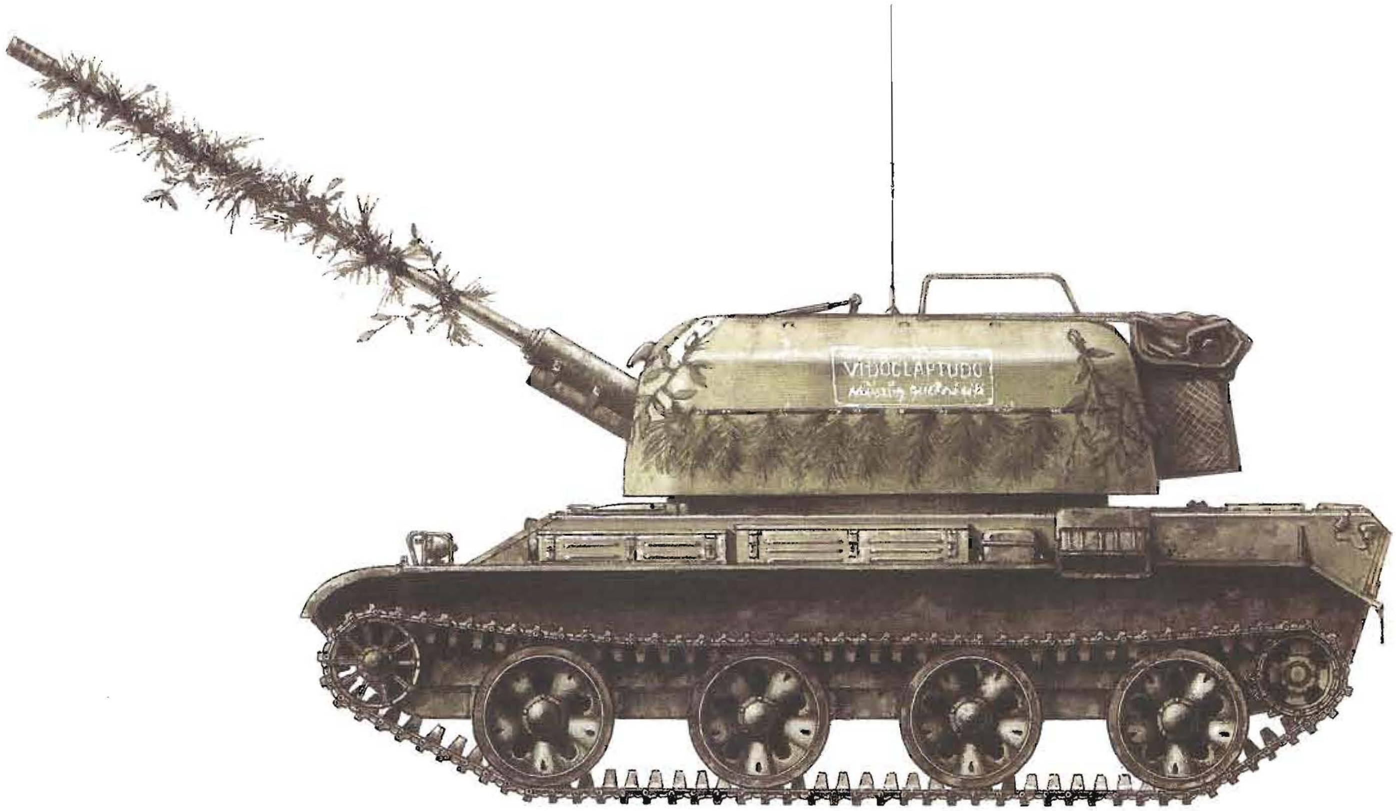
Type 63, PAVN 202nd Armored Regiment, Quang Tri, April 1972

The PAVN was always pleased with light amphibious tanks, such as the Soviet PT-76. The Chinese version of this vehicle, with a strengthened hull, new engine and a new turret to accommodate an 85mm gun proved also very popular with the North Vietnamese. The main improvement being the replacement of the low pressure 76mm gun for a high velocity 85mm gun. Within the PAVN, the vehicle was also referred as the PT-85.



T-54B, PAVN 201st Armored Regiment, Dong Ha, April 1972

The T-54B was the most modern tank then in service with PAVN during the Nguyen Hue Offensive. It usually outgunned the South Vietnam M-41A3 and could match the M-48A3. However, deployed without appropriate infantry support to attack urban areas, the T-54 units suffe heavy losses to ARVN LAW rockets.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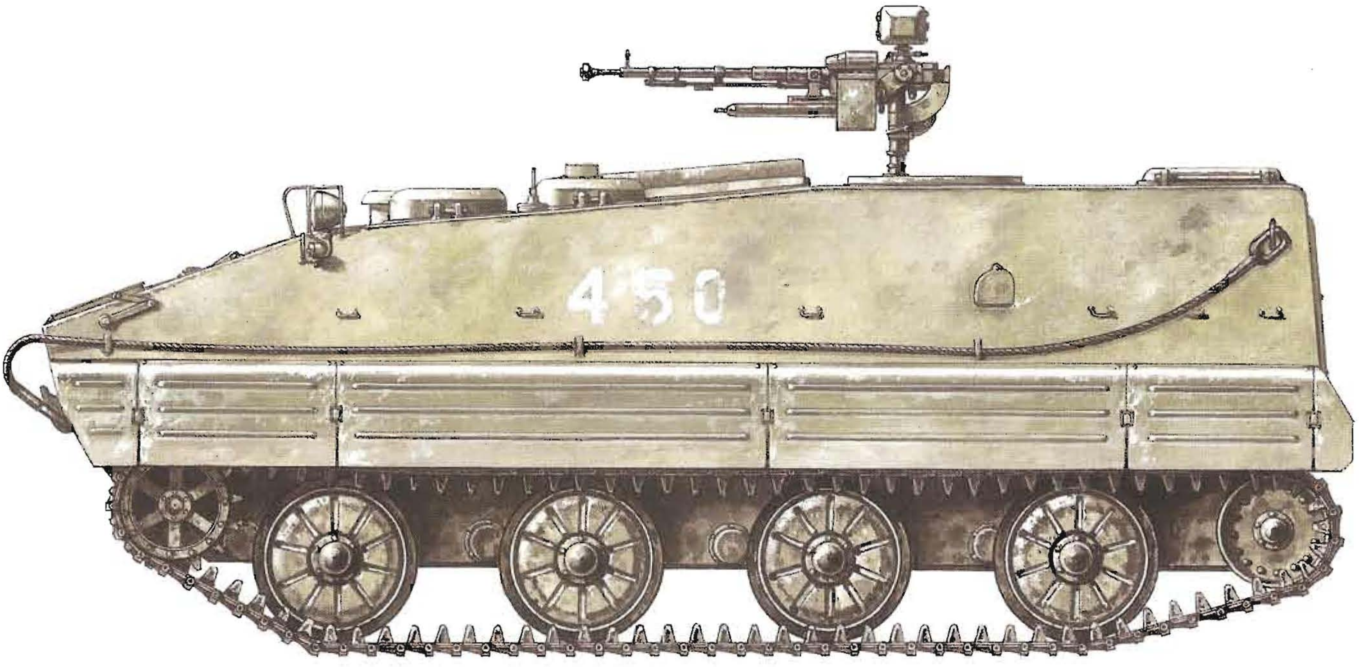
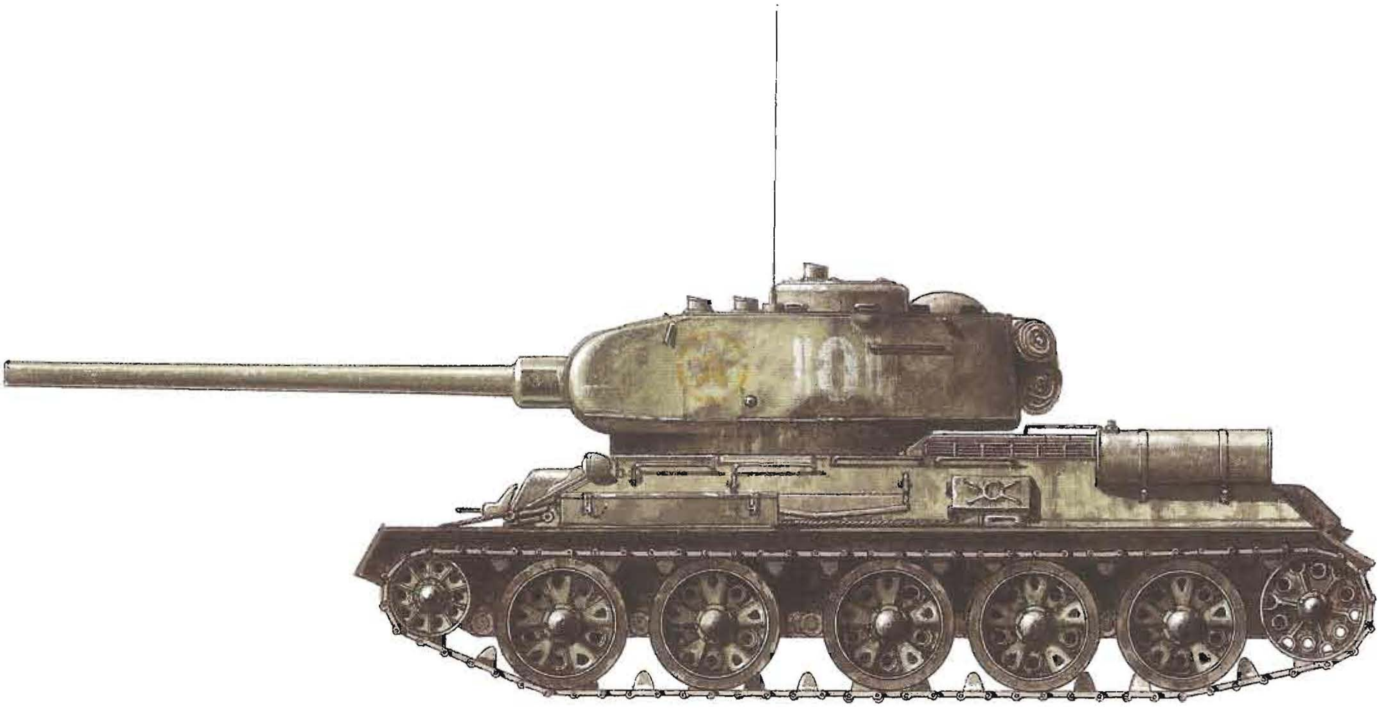
ZSU-57-2, PAVN unidentified anti-aircraft artillery unit, Quang Tri, April 1972

The PAVN developed considerable effort to protect its armored formation from air strike, including the deployment of the Soviet built ZS 57-2. Based on a modified and lightened hull of the famous T-54 tank, the open turret is armed with two S-68A 57mm AA guns. The slogan the turret meant "For independence and freedom". Note also the foliage camouflage.



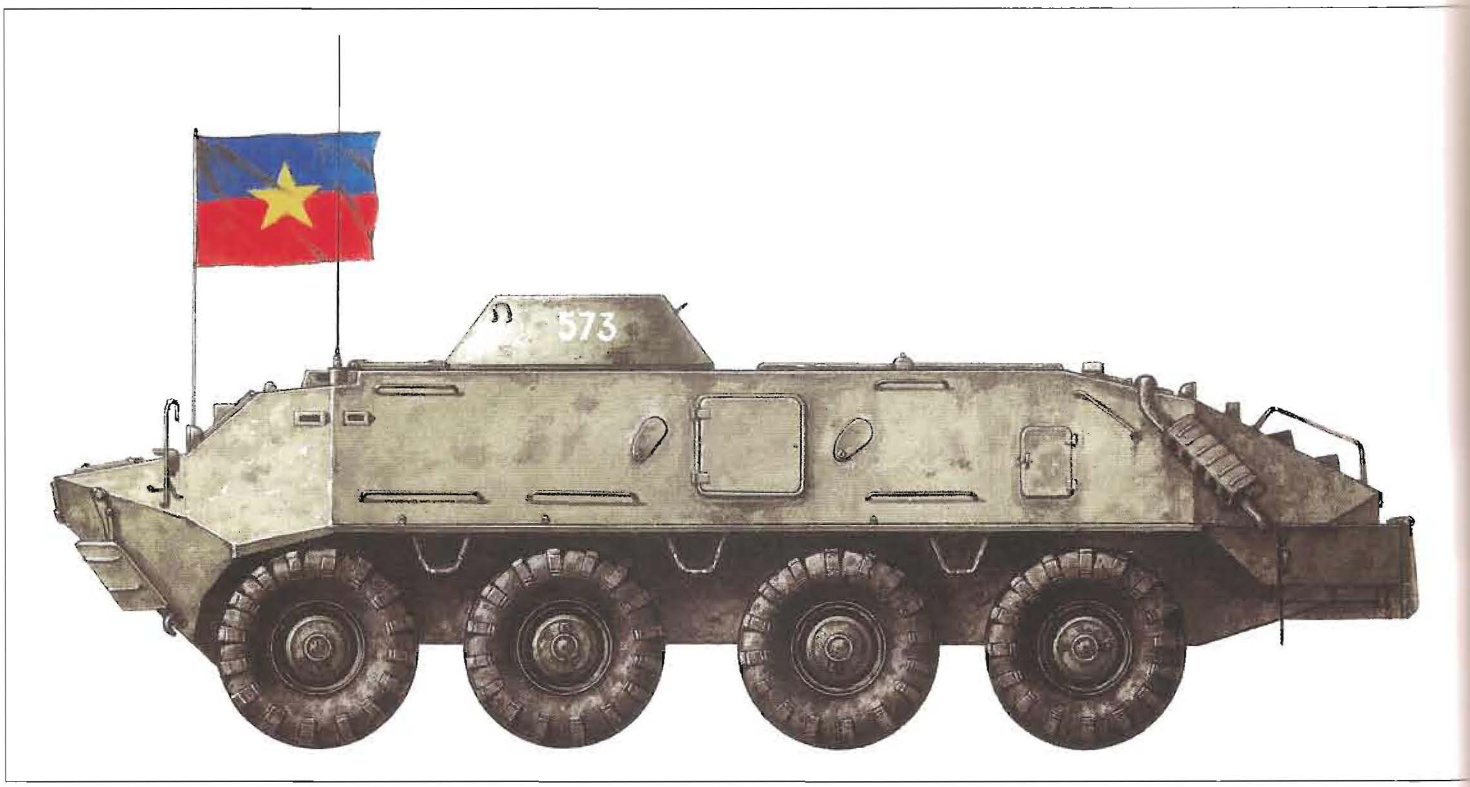
K-63, PAVN 202nd Armored Regiment, Quang Tri, May 1972

The Chinese built K-63 was the main PAVN APC used during the conflict, superseding in number the other vehicles such as the BTR-50, BTR-60 or BTR-152. Despite substantial deliveries by China, the North Vietnamese were always in need of APC vehicles and were often forced to operate with troops riding atop the tanks. The K-63 was armed with a single DShK 12.7mm machine gun without armored shield for the gunner.



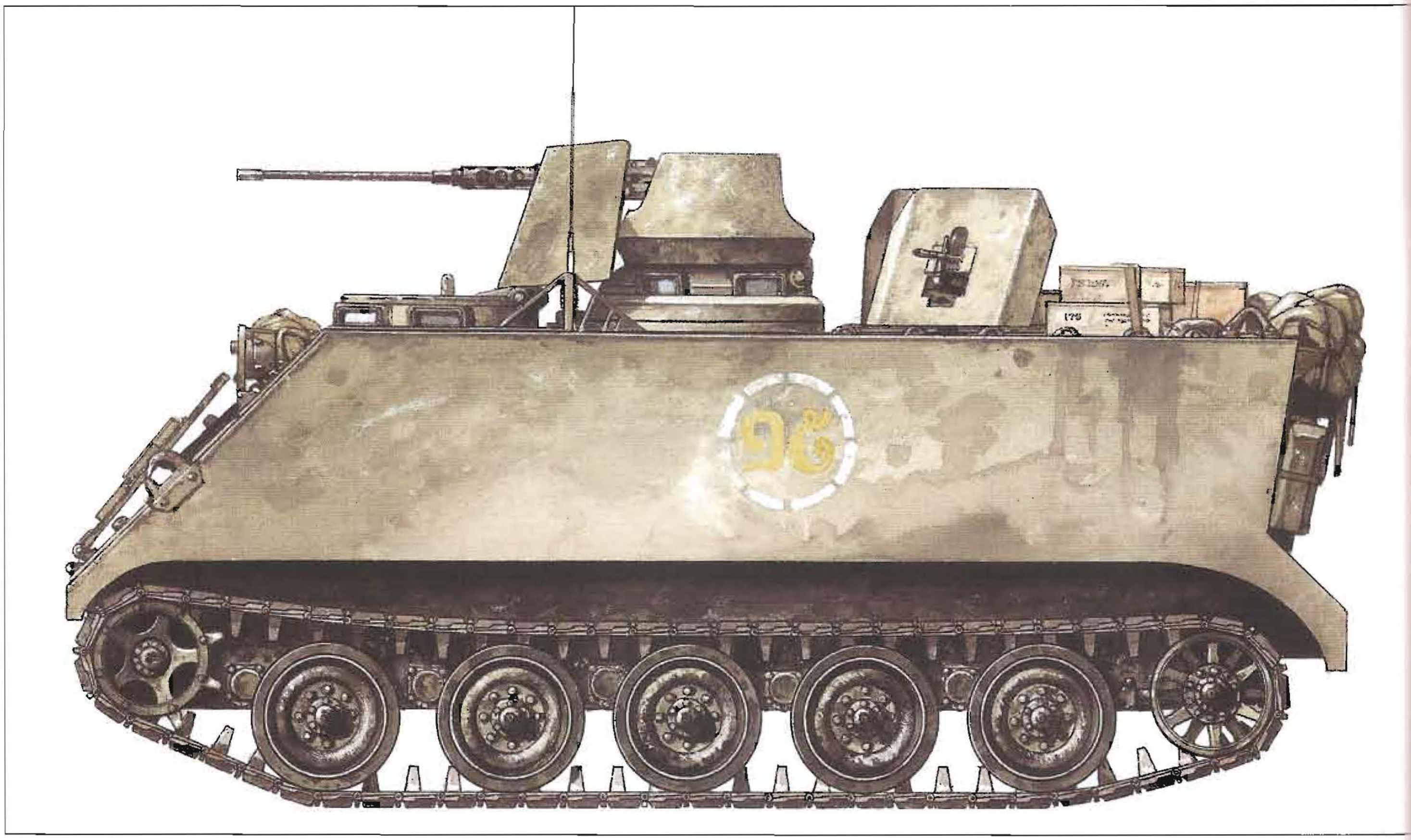
T-34-85, PAVN 203rd Armored Regiment, Dak To, May 1972

The old but reliable T-34-85 was the first tank to enter service with the PAVN in 1959. Despite the availability of more modern tanks such as the T-54 or the Type 59, the T-34-85s continued to be seen in most battlefields until the end of the conflict. Others served during the invasion of Kampuchea and the border war with China in 1979. This vehicle had the North Vietnamese color markings, a yellow star over a red disk, painted out for camouflage reasons.



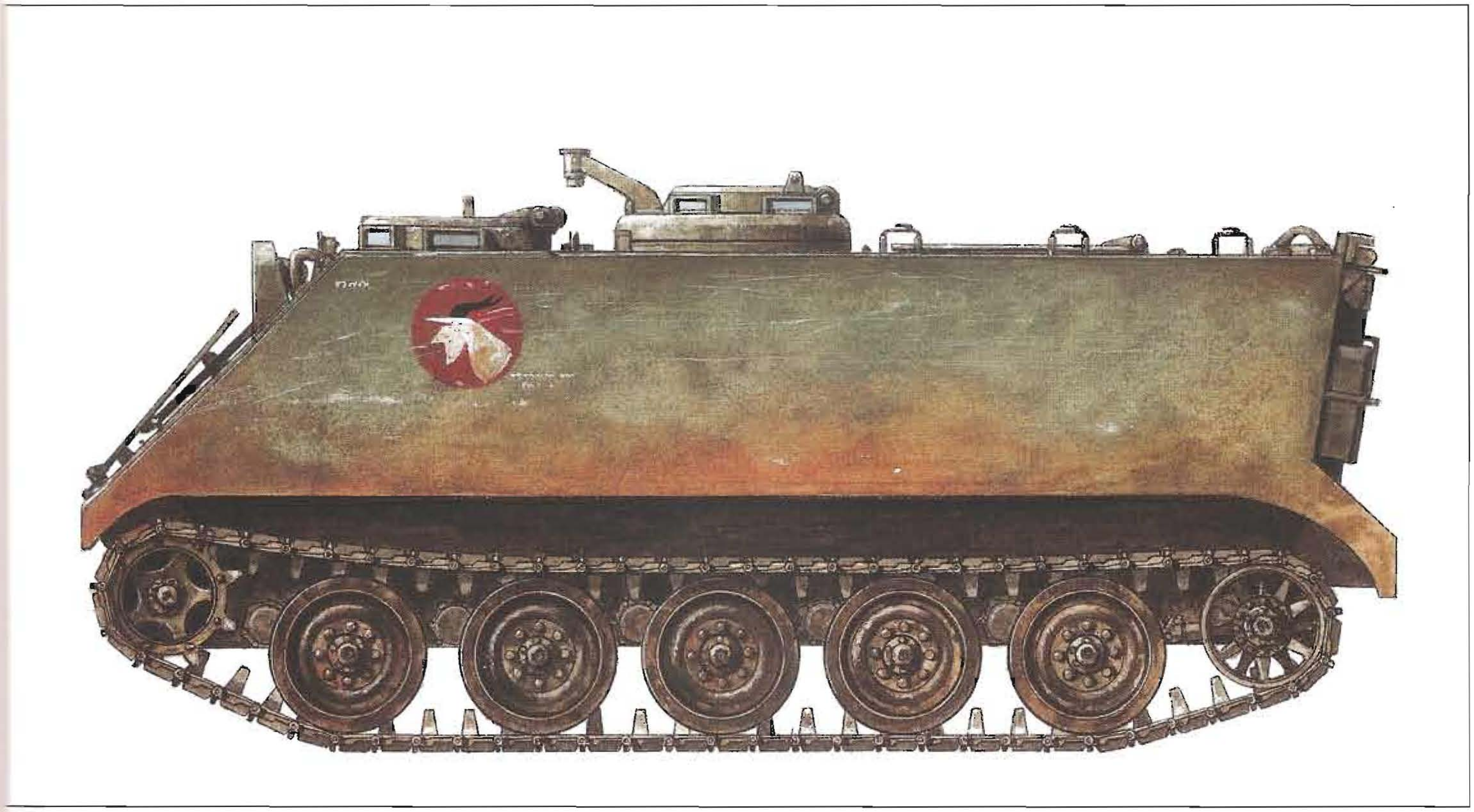
BTR-60PB, PAVN 26th Armored Regiment, Loc Ninh, November 1973

After the failure of the Nguyen Hue Offensive of 1972, the PAVN received substantial armored vehicles from the Communist Bloc to re-e its battered armored units. Among the new equipment received was the BTR-60PB, put into service in limited number. This vehicle was attac to the 26th Armored Regiment, a provisional unit set up near the Cambodian border and placed officially under the control of the Mi Committee of the so-called "Provisional Revolutionary Government of South Vietnam". In order to maintain that fictitious fact, the vehic adorned with a Viet Cong flag during a graduation ceremony held in a "liberated zone".



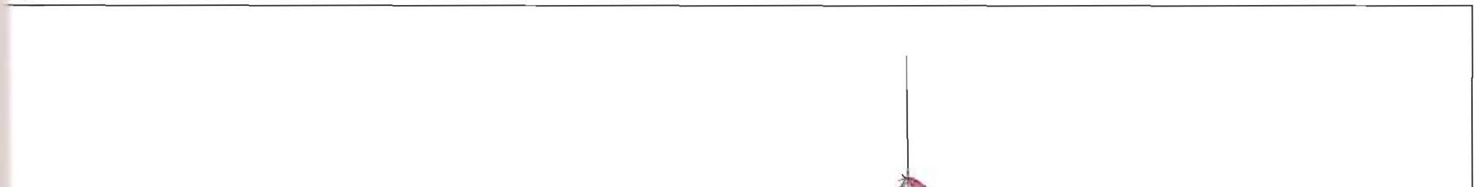
M-113, FANK I Armored Brigade, Phnom Penh, May 1974

Cambodia began to receive its first M-113 APCs in 1972. The vehicle replaced the M-3 half-tracks and BTR-152 to support the moun combat infantry. Like vehicles used in Vietnam, the FANK M-113s were equipped with machine gun shields. Note that the rear compartm firing positions are armed with old Browning .30 caliber machine guns instead of the more modern M-60s. The number fifteen in Khmer is pain as tactical marking on the side of the hull.



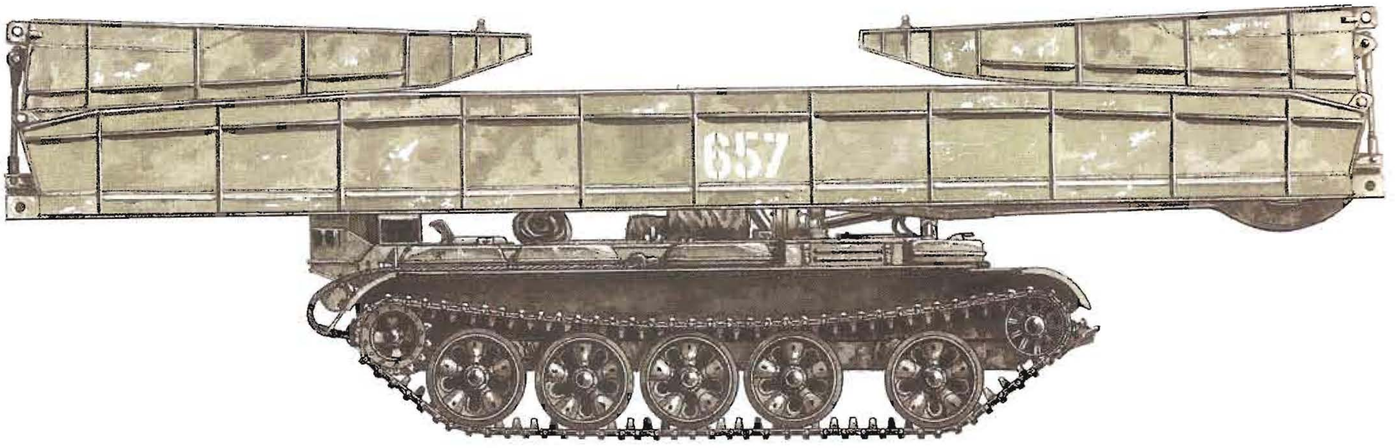
M-113 APC, ARVN II Armored Brigade, Central Highlands, March 1975

The decision to evacuate the ARVN Military Region 2 after the fall of Ban Mé Thout in March 1975 created chaos and panic in the retreating column along Route 7B. The entire ARVN II Armored Brigade was lost in the process. This M-113 was found abandoned by the PAVN that quickly turned it into their service. The vehicle was not equipped with an armored machine gun shield as found on most other ARVN APCs. That indicated this was one of the last vehicles delivered in urgency by the Americans from the US depots before the implementation of the cease-fire of January 1973.



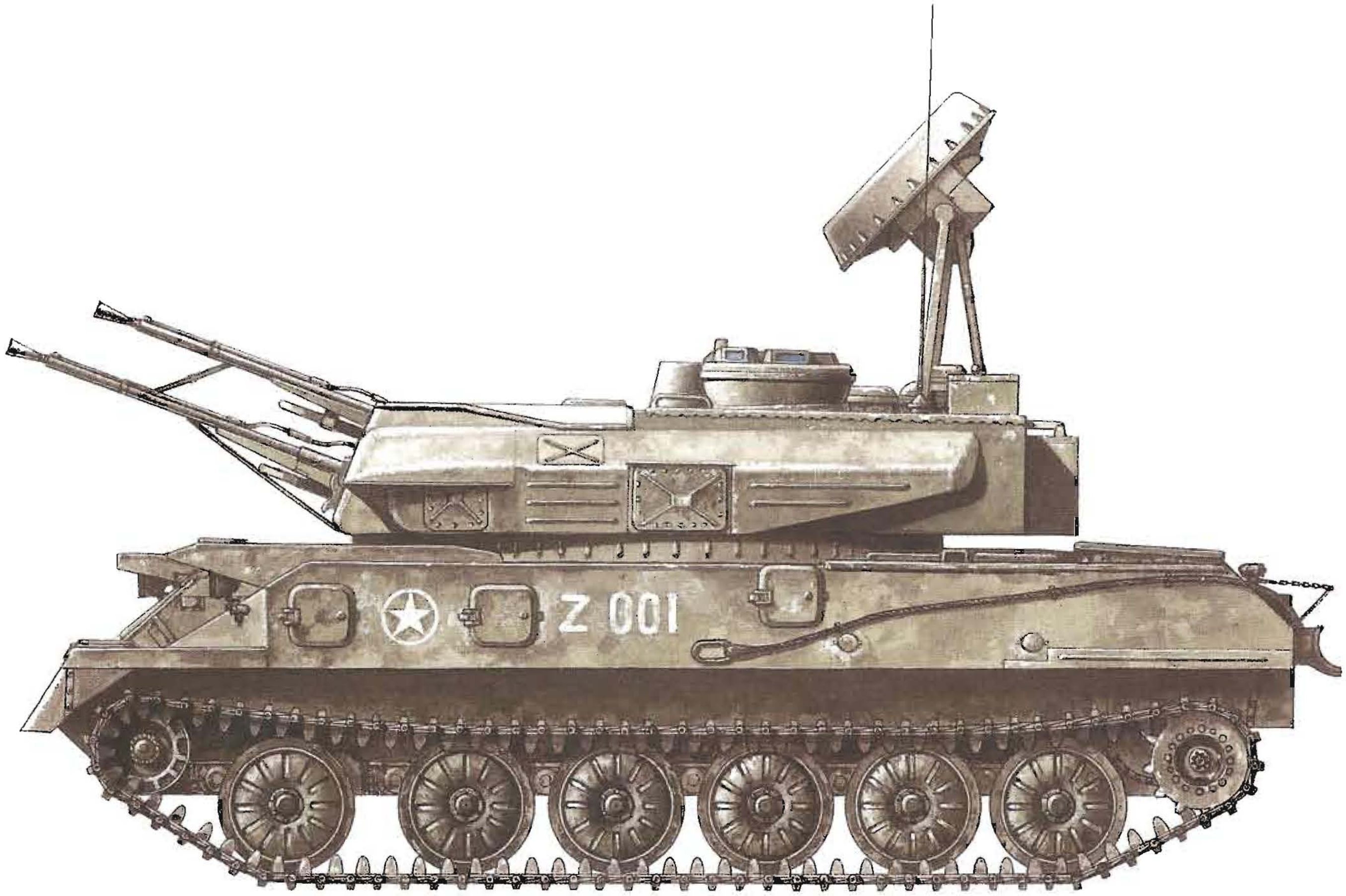
T-54B, PAVN 202nd Armored Brigade, Saigon, April 1975

On 30 April 1975, at 12:15, the tanks of the PAVN 202nd Armored Brigade of the 1st Army Corps crashed through the gates of the South Vietnam Presidential Palace. This vehicle was one of those who participated in this last action of the Vietnam War. A Viet Cong flag is attached to the radio antenna.



MTU-20, PAVN 203rd Armored Brigade, Phan Thiet, May 1975

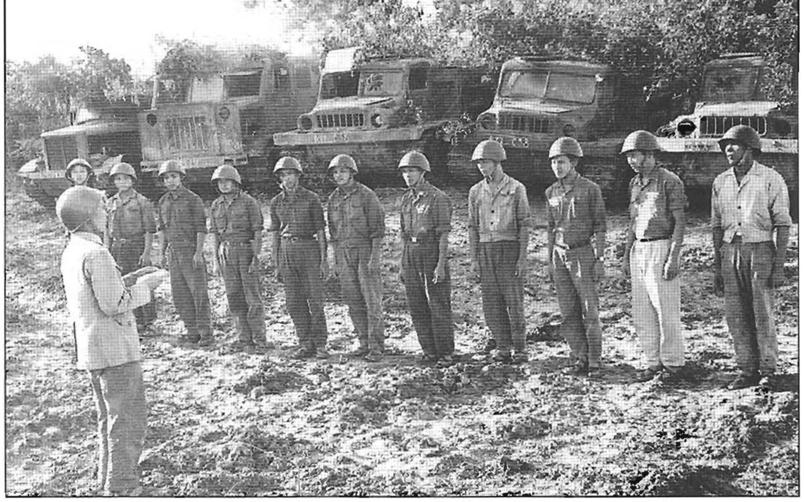
The PAVN armored units were supported by sophisticated engineer equipment for the final 1975 offensive. This MTU-20 armored bridge based on a T-54 tank chassis, can lay an 18-meter bridge in less than three minutes. Thanks to this kind of equipment, the PAVN armored could sustain a Blitzkrieg style campaign that saw the fall of South Vietnam in 55 days.

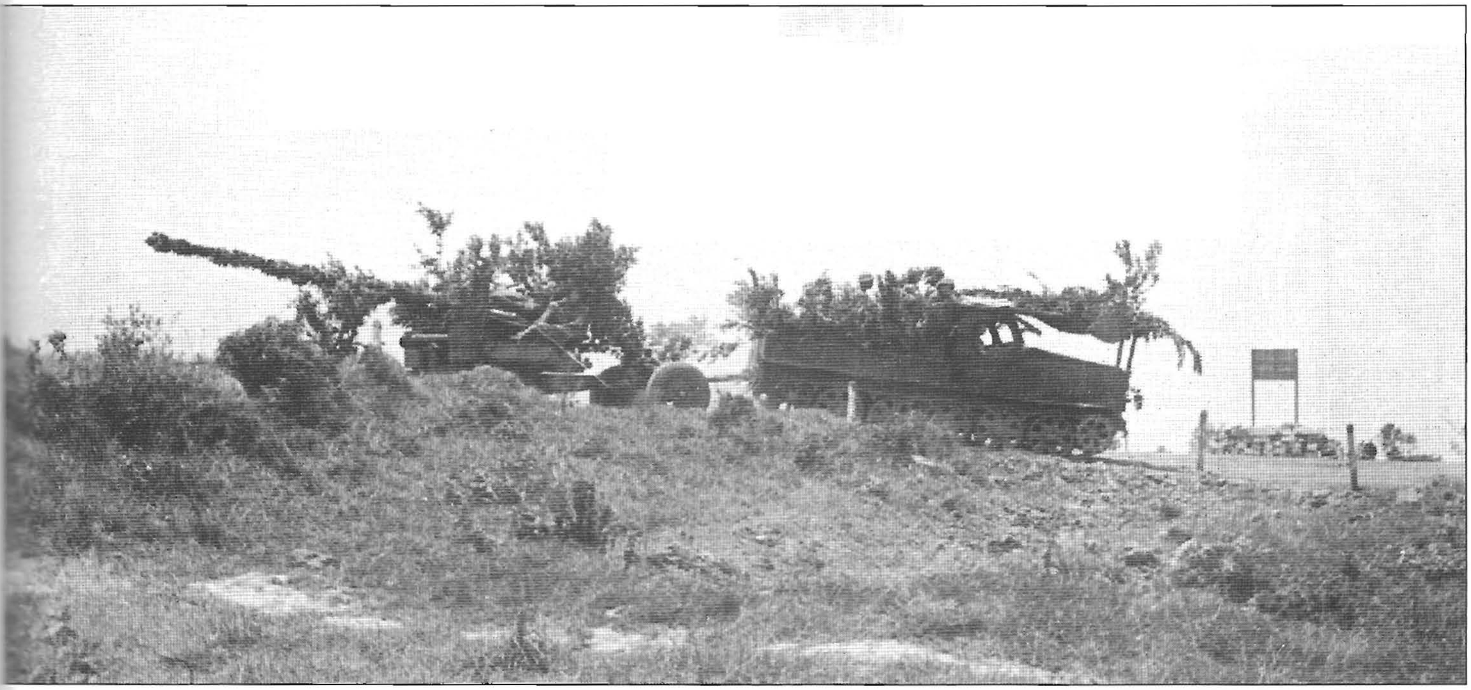


ZSU-23-4, PAVN 237th Anti-aircraft Artillery Regiment, Xuan Loc, May 1975

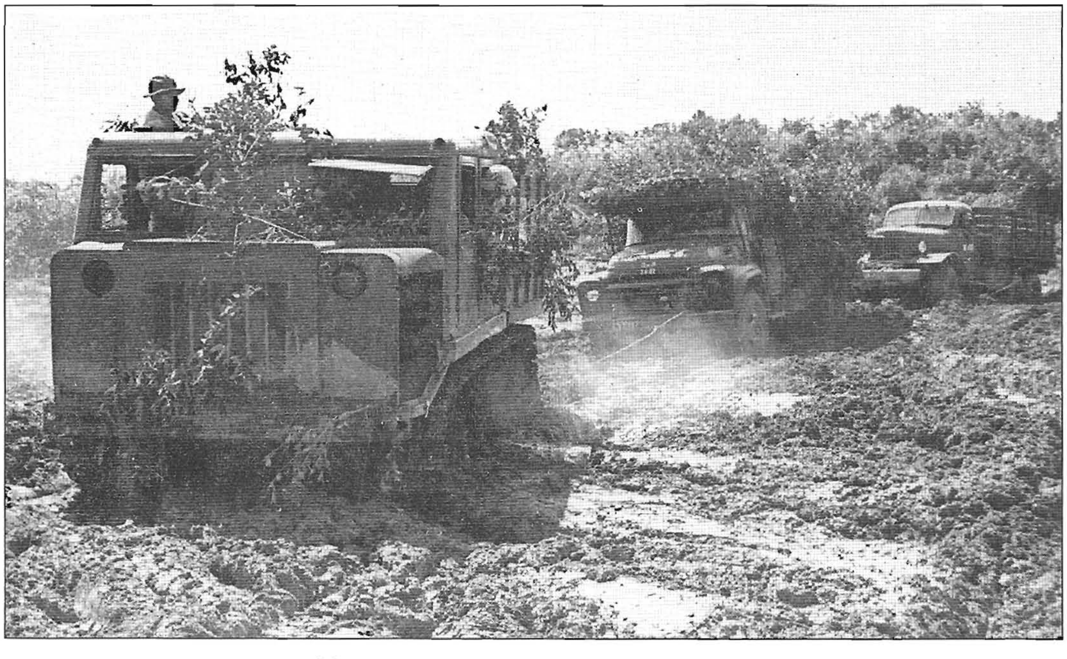
The PAVN received the sophisticated ZSU-23-4 in December 1972 but began to deploy it to South Vietnam only in 1975. The VNAF aircr lacking electronic counter-measure equipment, were very vulnerable at low altitude against this radar-guided AA system that had alrea decimated the Israel Air Force during the Yom Kippur War in the hands of the Arab Armies.

models in use. They are, from left to right: an AT-L light artillery tractor, an AT-S medium artillery tractor and three ATS-59 medium artillery tractors. These tractors were used not only to tow artillery, but also to carry equipment and troops over rough terrain. (Socialist Republic of Vietnam)

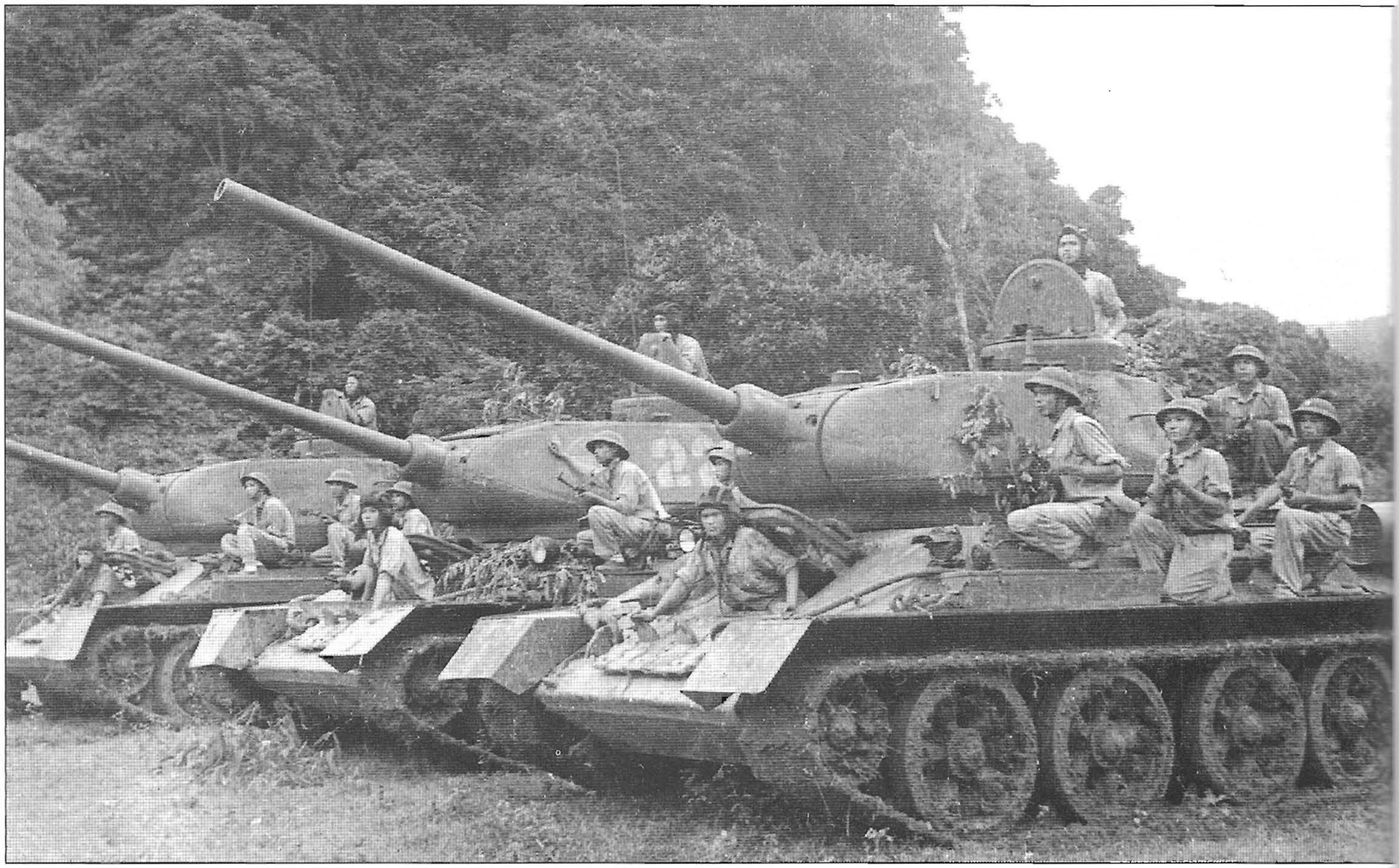




An AT-L light artillery tractor towing an S-60 57mm anti-aircraft gun. Both the vehicle and the gun were heavily camouflaged in order to conceal them from US planes. The gun's crew is sitting behind the driver's cabin. (Socialist Republic of Vietnam)

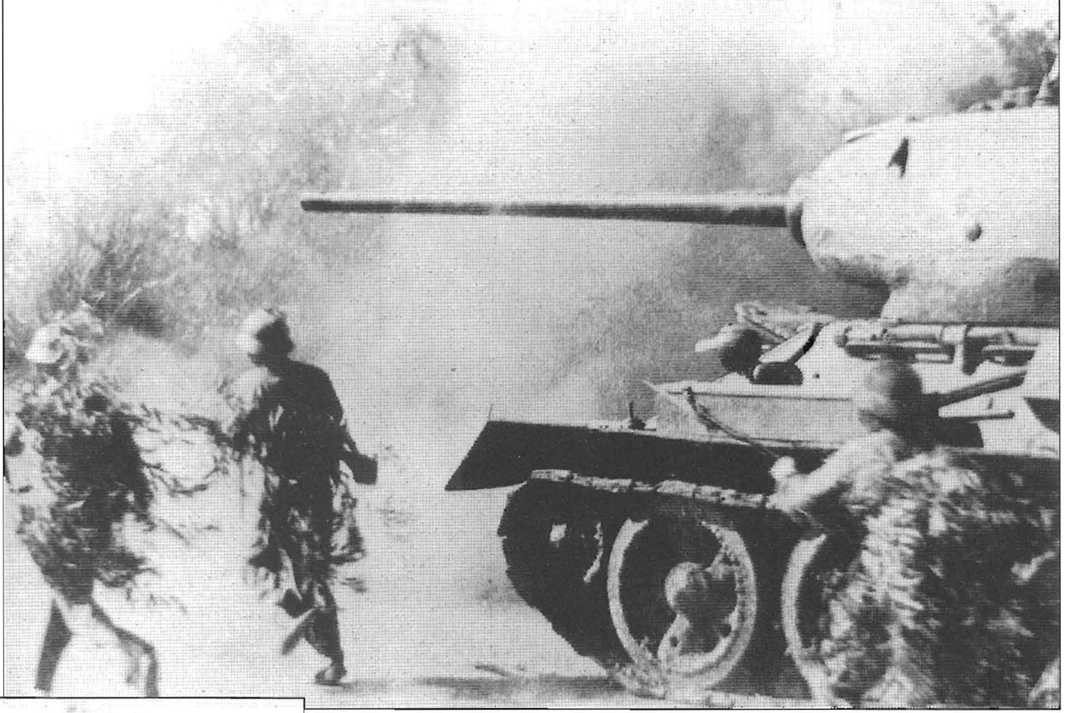


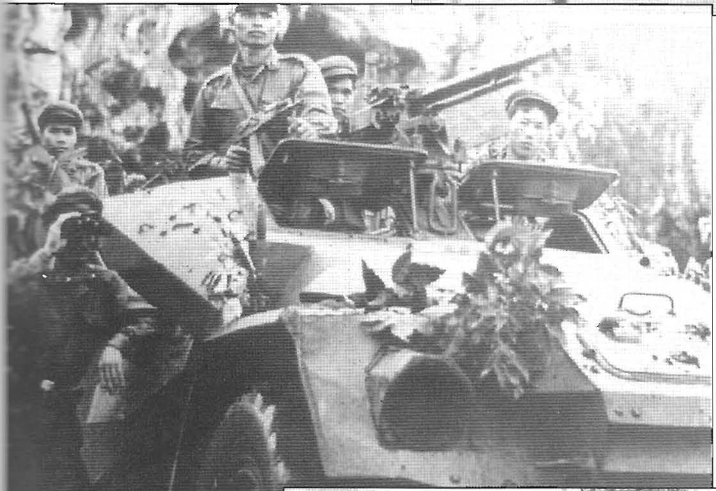
This AT-S medium artillery tractor is towing ZIL-130 and ZIL-157K trucks that were bogged down in the mud on the Ho Chi Minh Trail. The PAVN usually removed one of the two headlights on their vehicles in order to hide them from aerial observation at night. (Socialist Republic of Vietnam)



The PAVN deployed the T-34-85 in combat for the first time in Laos at the end of 1971. Until then the North Vietnamese had utilized only the PT-76B in this theatre. The lack of APCs forced the PAVN to convey infantry on tanks, which rendered the troops very vulnerable. The tanks are fitted with spare tracks on the front of the hull to increase the protection of the driving compartment. (Socialist Republic of Vietnam)

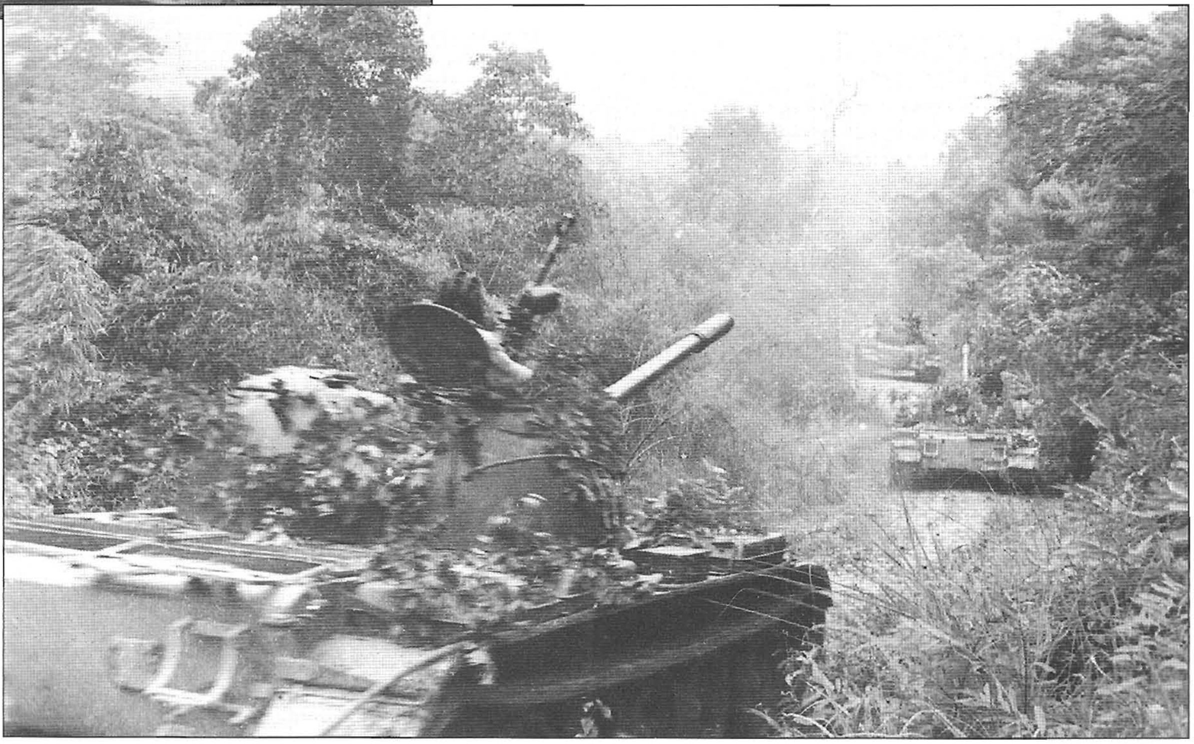
infantry is heavily camouflaged with foliage. The tanks provided effective support during the advance against an enemy who often panicked at their appearance. (Socialist Republic of Vietnam)





The Communist Pathet Lao of Laos also had a small armored force that operated alongside the PAVN armor in the Plain of Jarres. This BTR-40, which operated in a scout reconnaissance role, is armed with a DShK front-mounted 12.7mm machine gun and two side-mounted SGMB 7.62mm machine guns. (Socialist Republic of Vietnam)

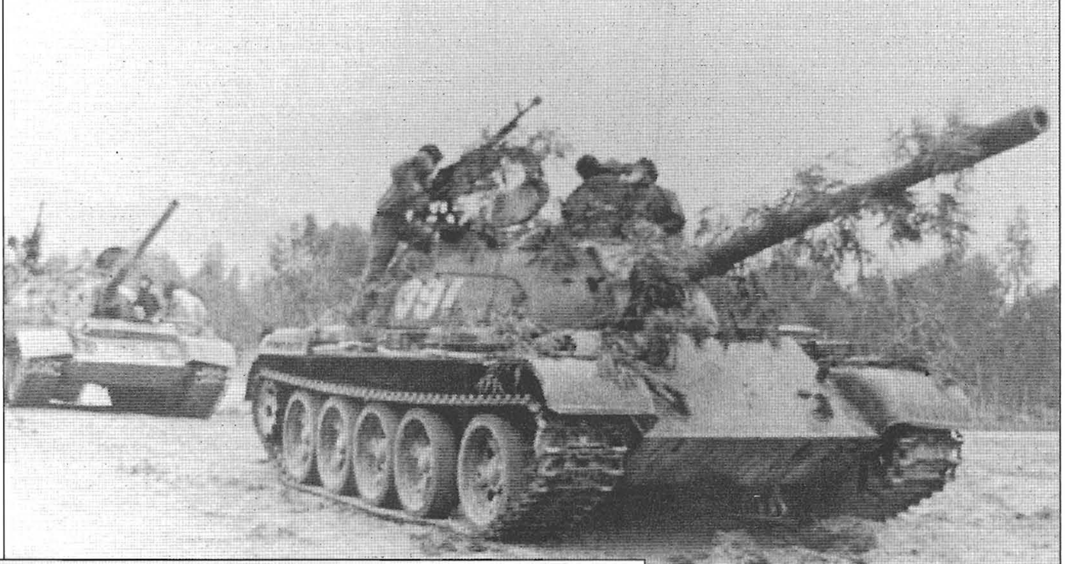
In January 1972, the PAVN 171st Armored Battalion of the 203rd Armored Regiment was sent south to be deployed in great secrecy east of Tay Ninh, near the Cambodian border. The 38 T-54Bs of the unit drove over 900 kilometers (560 miles) in two months without being detected by US aircraft, a truly remarkable feat. They were later joined by two other T-54 battalions that were later engaged against An Loc during the Nguyen Hue Offensive. The tank was heavily camouflaged with foliage and usually drove at night along the Ho Chi Minh Trail. (Socialist Republic of Vietnam)

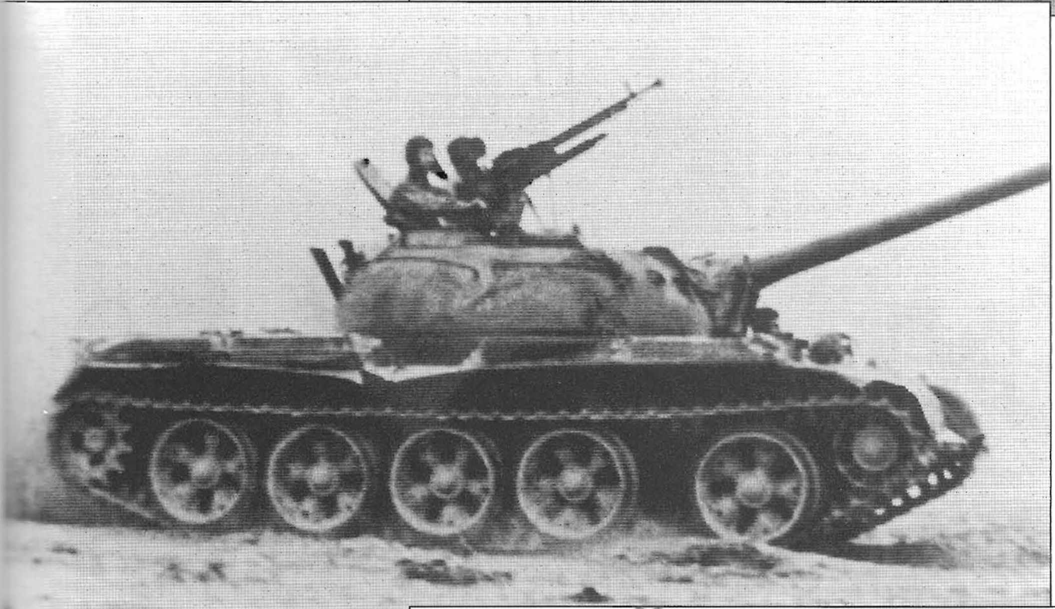


With the help of infantry troops and civilian women, the crew of this bogged-down T-54 of the 201st Armored Regiment tries to quickly extract the vehicle from the mud. At any moment the tanks could be surprised by US aircraft, and these vehicles are not fitted with 12.7mm anti-aircraft machine guns. The vehicles were part of the PAVN armored force assembled for the Nguyen Hue Offensive across the Demilitarized Zone (DMZ) in March 1972. (Socialis Republic of Vietnam)

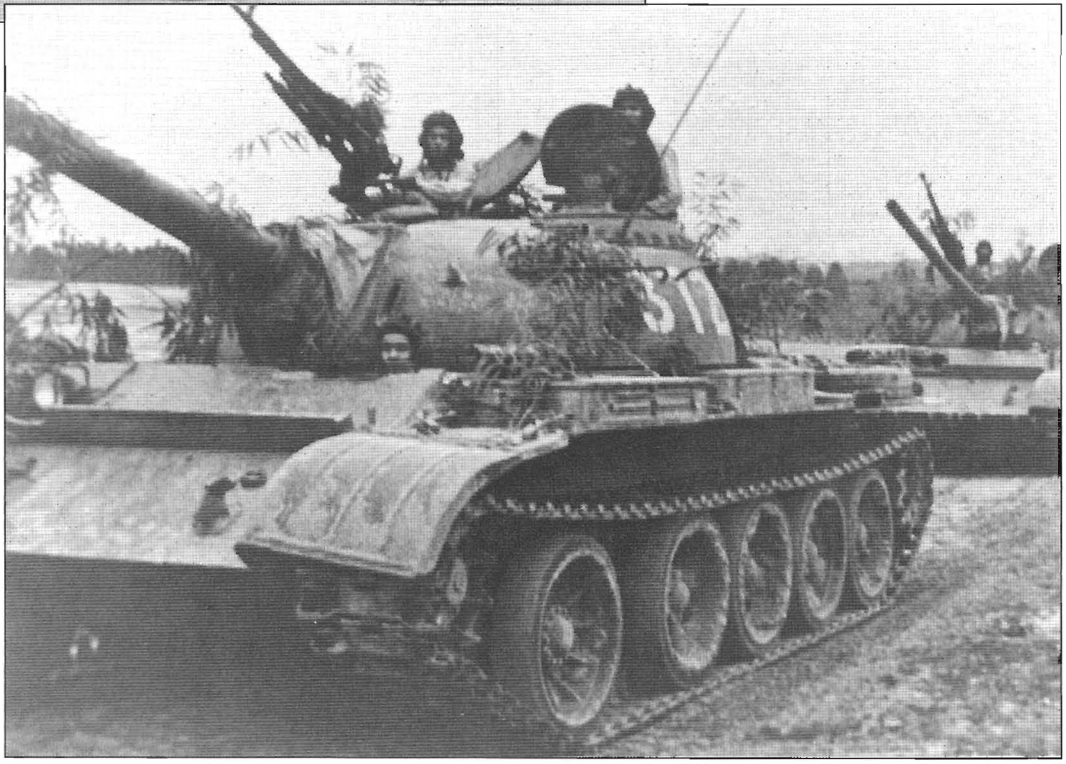
This T-34-85 of the PAVN 203rd Armored Regiment is bogged down in a quagmire of mud. The monsoon season greatly restricted the mechanized operations of both sides in Vietnam. Rivers overflowed, washing out the roads and bridges and transforming dirt trails into marshlands. The North Vietnamese then often preferred to use light amphibious tanks like the PT-76 or the Type 63 rather than heavier machines. (Socialist Republic of Vietnam)

These T-54 tanks of the PAVN 201st Armore Regiment move toward their initial attack position at t end of March 1972, just north of the DMZ. On March 3 1972, they crashed over the 17th parallel in devastating blow against the ARVN. It was the mos ward the DMZ in preparation for the guyen Hue Offensive in early March 972. The vehicles are camouflaged th foliage to protect them from aerial servation. (Socialist Republic of etnam)





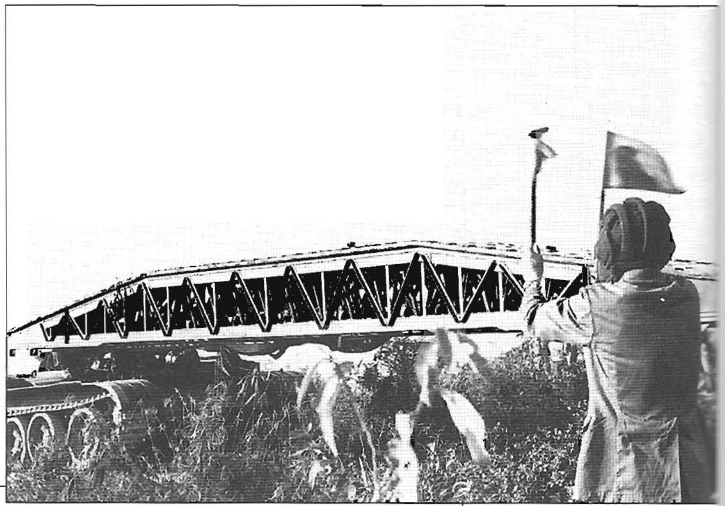
A good profile view of a PAVN T-54A from the 202nd Armored Regiment. The tank is armed with the old D-10T 100mm gun, without a fume extractor or muzzle counterweight. However, it is probably a modernized vehicle, as is evident from the starfish-type wheels. Presumably it features the Tsiklon two-axis gun stabilization package. (Socialist Republic of Vietnam)



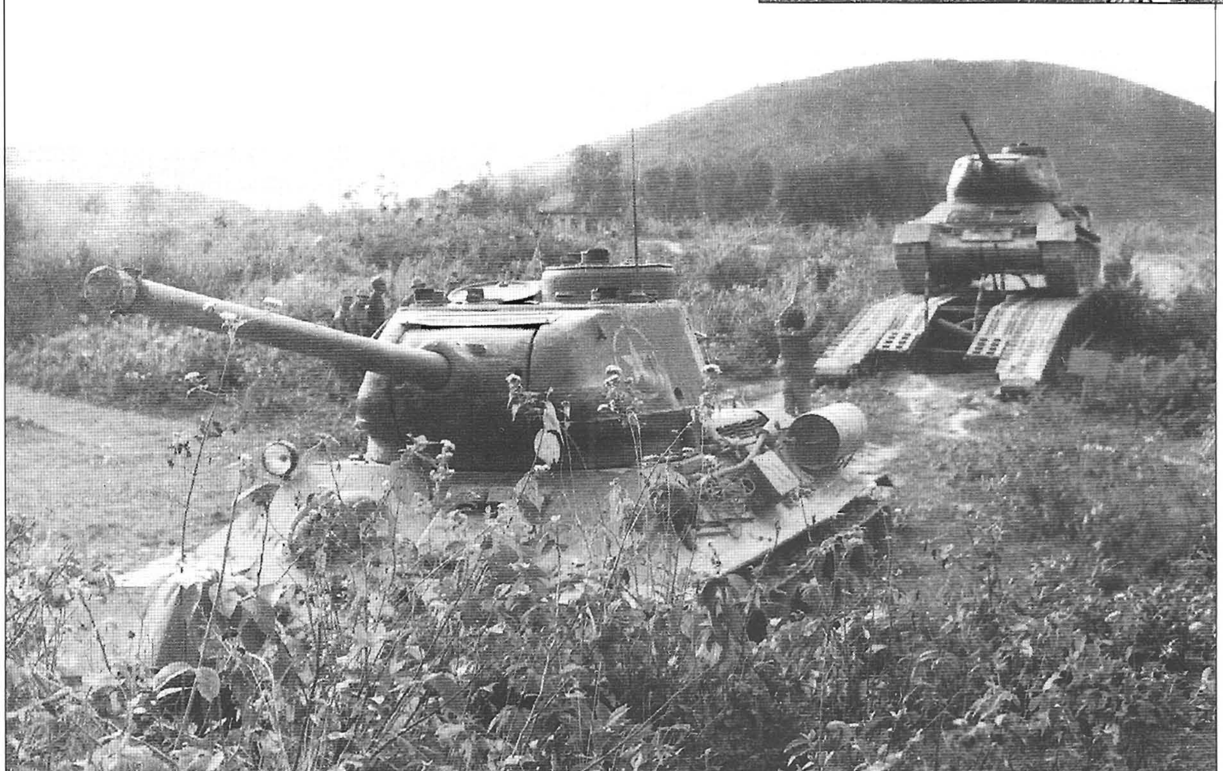
These T-54As of the 202nd mored Regiment would spearhead e PAVN's opening phase of the guyen Hue Offensive by crushing the rward ARVN outposts deployed along e DMZ. After some initial successes, ost of these tanks were wiped out by S airpower. (Socialist Republic of etnam)

PAVN tankers study tactics on a sand table with the use of scale model tank kits. This simple teaching method was also regularly practiced by North Vietnamese and Viet Cong infantry, who could then more easily visualize their operational areas. The enemy positions were previously identified and precisely reported by infiltrating scout teams or Communist undercover agents. (Socialist Republic of Vietnam)

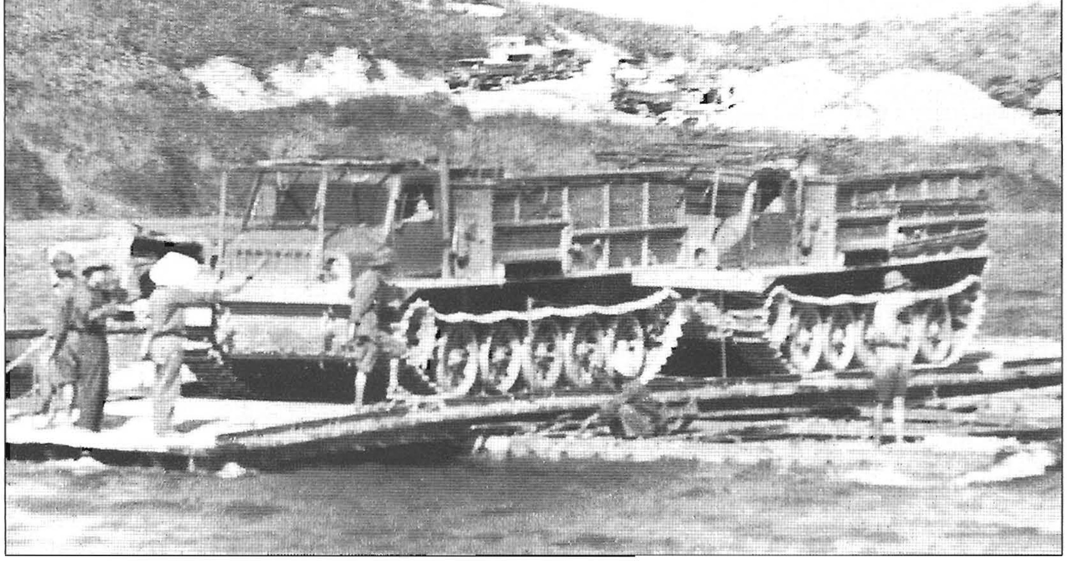
These T-34-85s of the PAVN 203rd Armored Regiment were photographed during a rest before crossing the North Vietnamese border i early March 1972. The men mingled with local peasants before moving int the Kontum area of the Central Highlands. The deployment of the unit wen unnoticed by US air reconnaissance. (Socialist Republic of Vietnam)

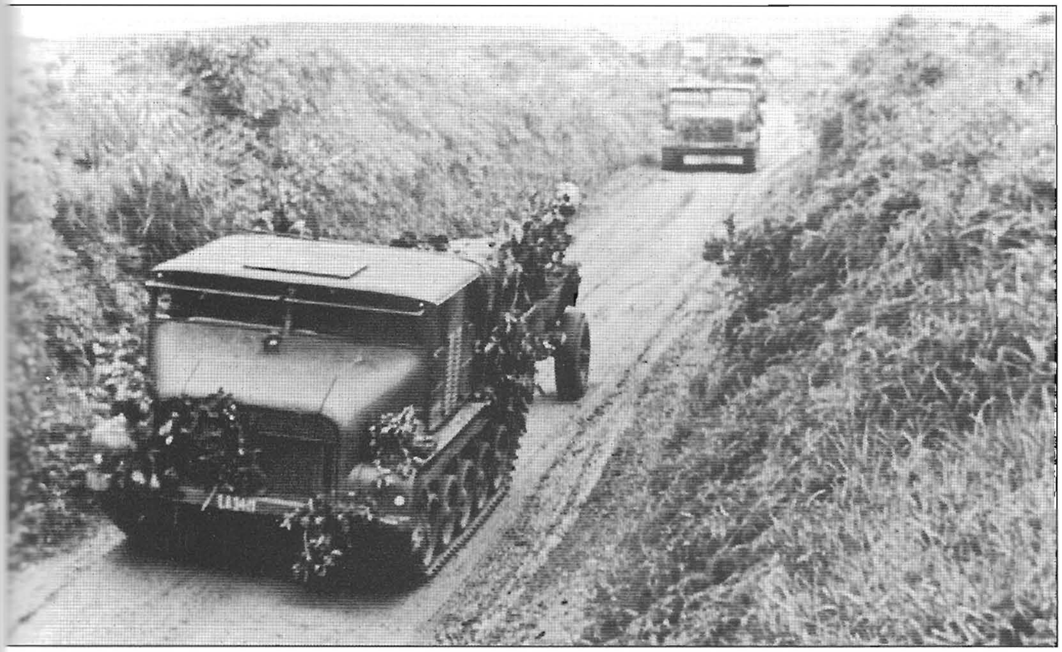


The PAVN 203rd Armored Regiment, which deployed in the Central Highlands of South Vietnam in March 1972, contained three battalions. They were equipped respectively with T-54, T-34-85 and PT-76 tanks. The unit also had some MTU bridge-layers attached to it. Here a bridge, which is mounted on a T-54 tank chassis, is being erected across a small waterway. (Socialist Republic of Vietnam)



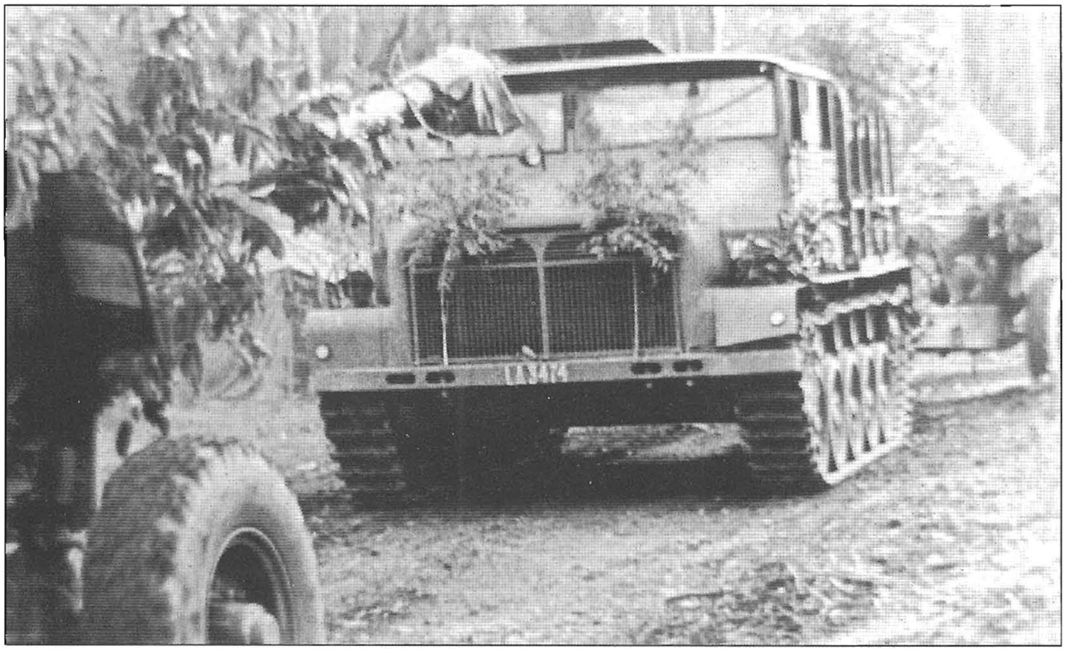
After the waterwa had been spanned b the MTU bridge, the T-34-85s of the 203 Armored Regime crossed over. Th vehicles have extern fuel tanks attached t their hulls to increa across a river just north of the DMZ in March 1972. These vehicles were attached to the six artillery regiments that were deployed along the South Vietnamese border to support the attack on 30 March of four infantry divisions and the 201st and 202nd Armored Regiments. (Socialist Republic of Vietnam)

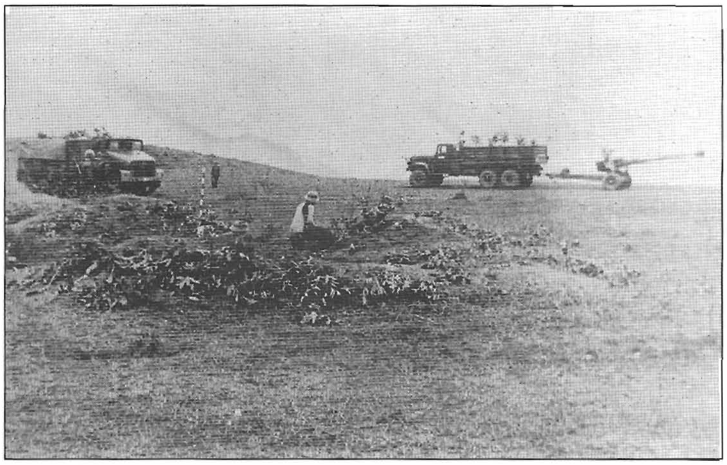




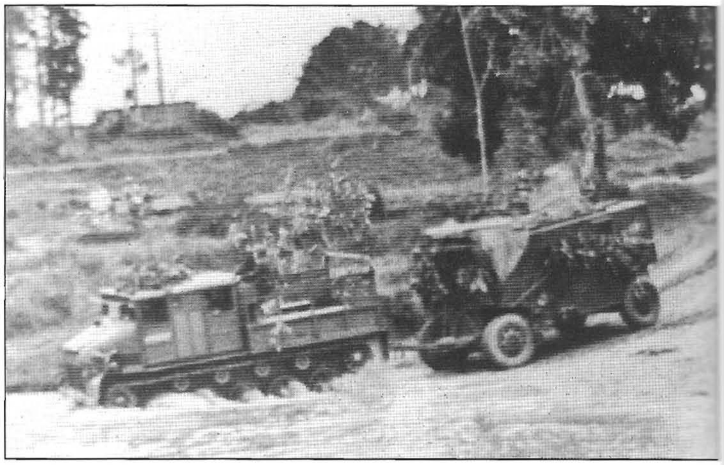
Another artillery tractor used by the PAVN in the 1972 offensive was the Polish-built Mazur D-350. It was roughly equivalent to the Soviet ATS-59 and is seen here towing 122mm guns. (Socialist Republic of Vietnam)

The PAVN artillery regiments usually had tracked tractors attached to them. Besides Soviet equipment, the Polish-built Mazur D-350 was also used for towing howitzers or long-barreled guns like these D-74 122mm guns. (Socialist Republic of Vietnam)

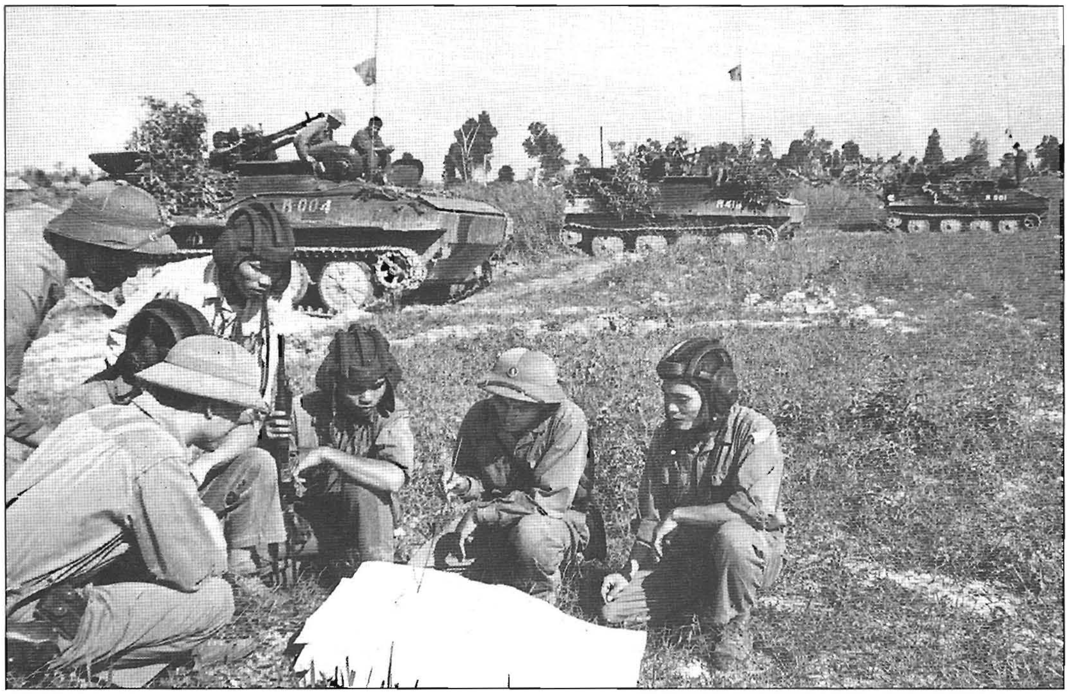




Along with tracked tractors, the PAVN artillery units also used heavy trucks for towing the guns. According to Soviet practices of the 1970s, road-wheel vehicles would at least supplement the tracked vehicles because they were cheaper and easier to maintain. However, the PAVN preferred to maintain the tracked tractors, which had better cross-country capacity in a country with few paved roads. Here a Soviet-built KrAZ-255 heavy truck operates alongside a Polish-built Mazur D-350 tracked tractor. (Socialist Republic of Vietnam)

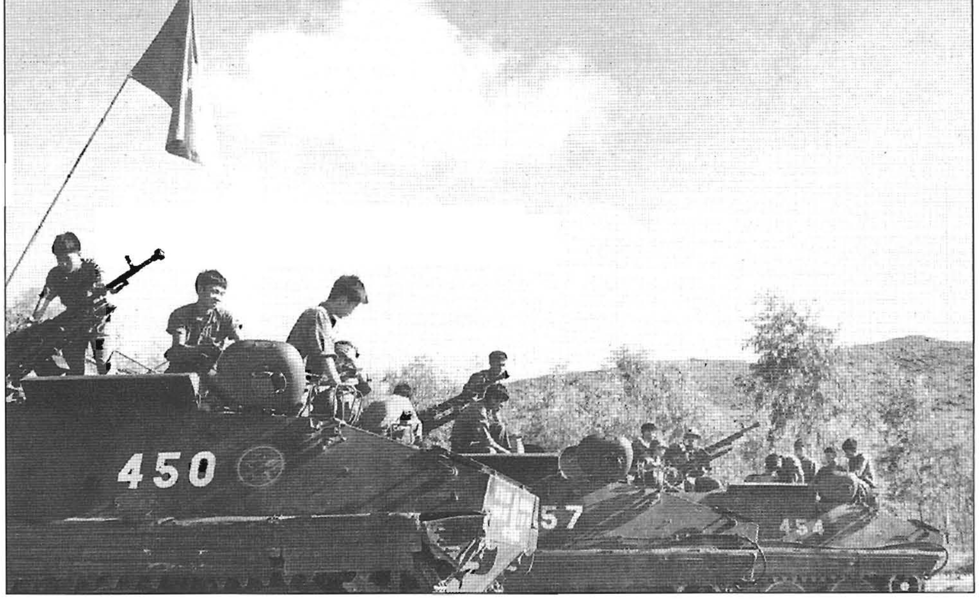


This Mazur D-350 is towing a command and communication van, which is equipped with high-powered communication devices. The tractor provided great mobility to this kind of mobile command post attached to PAVN divisional or regimental headquarters. (Socialist Republic of Vietnam)

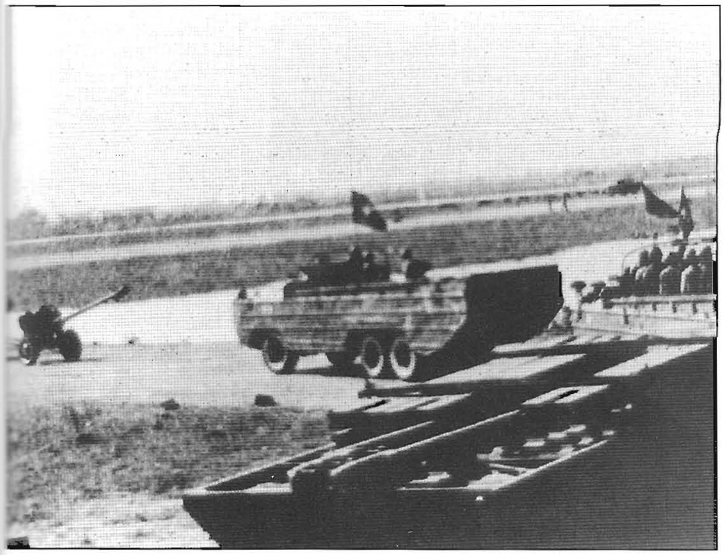


In the early 1970s the PAVN began to receive Chinese K-63 APCs. This vehicle then became the main APC in the service of the North Vietnamese, though they lacked a sufficient number to really mechanize their infantry units. Here the APC commanders of the 202nd Armored Regiment devise an attack exercise with the commanders of the attached infantry company. (Socialist Republic of Vietnam)

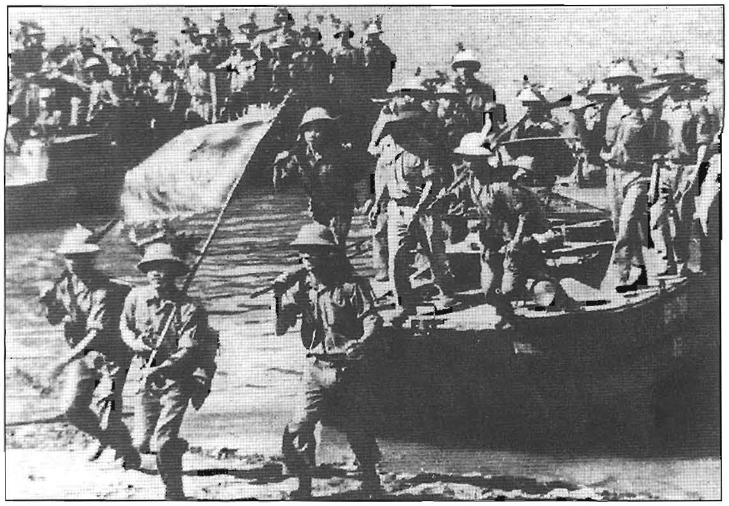
Until the arrival of the K-63, the PAVN were able to use only a limited number of Soviet BTR-40, BTR-152 and BTR-50PK APCs. The North Vietnamese praised the Chinese-built vehicle for its good cross-country capability and easy maintenance. The crews of the vehicles were armed with folded-butt AK-47s, while the infantry troops were issued the standard AK-47 armed with a DShK 12.7mm heavy machine gun. Unlike the American vehicle, the K-63's gunner was exposed to fire, unprotected by an armored gun shield. However, in some encounters with ARVN M-113s, the K-63 was able to engage it at a more distant range with high-velocity armor-piercing ammunition. (Socialist Republic of Vietnam)



In the ultimate military exercise, Communist troops simulate an attack after disembarking from K-63 APCs. In the following weeks, they would be sent to South Vietnam to participate in the Nguyen Hue Offensive that started on 30 March 1972. Some 200 K-63s and BTR-50PKs were engaged in the attack across the DMZ. The vehicles had their mudguards removed and were camouflaged with foliage. (Socialist Republic of Vietnam)

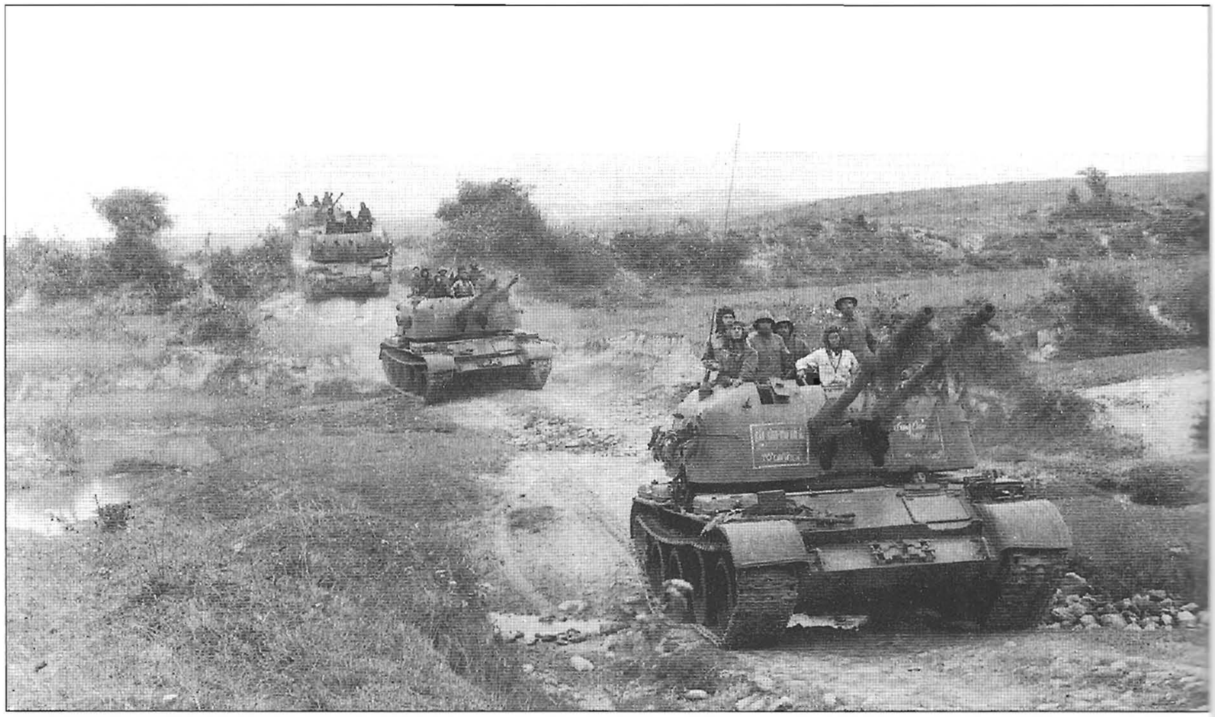


The PAVN also used the Soviet-built ZiS-485 amphibious truck, a vehicle roughly equivalent to the US World War II-vintage DUWK. In this photo these vehicles, seen here in June 1972 being deployed near Quang Tri, are followed by pontoon bridges. (Socialist Republic of Vietnam)

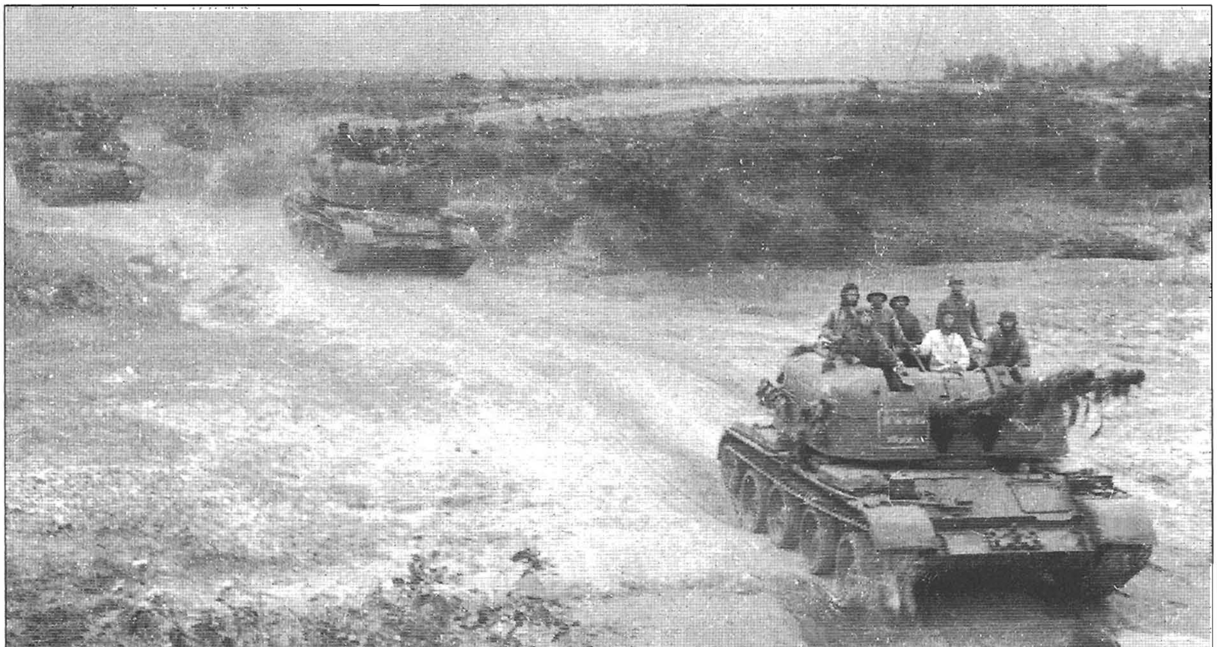


Communist troops disembark from a ZiS-485 amphibious truck. The North Vietnamese engineer units were usually better equipped with amphibious and bridging equipment than the ARVN. The PAVN put great emphasis on these items since the troops were to be operating in a theater where they would need to cross numerous water obstacles. (Socialist Republic of Vietnam)

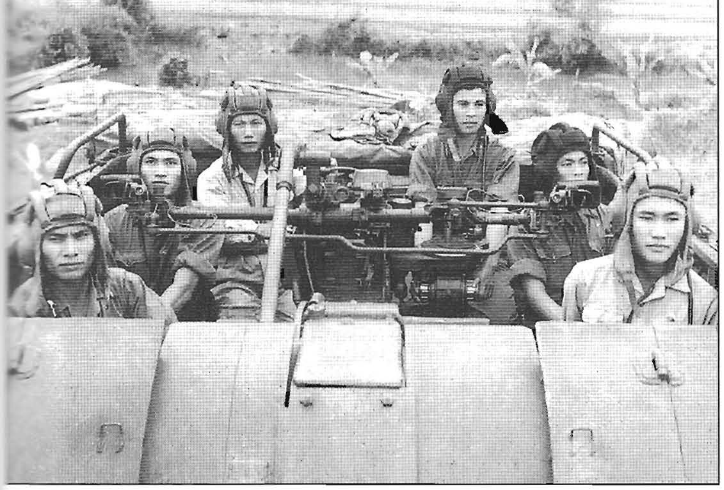
The PAVN also used the Soviet-built GAZ-46 light amphibious car. This vehicle is roughly equivalent to the American Ford GPA used in World War II. The chassis and the mechanical parts of the Soviet vehicle are based on the GAZ/UAZ-69 light command car. (Socialist Republic of Vietnam)



The PAVN paid particular attention to anti-aircraft defense of its armored units. The four infantry divisions that attacked across the DMZ on 30 March 1972 were protected by three anti-aircraft artillery divisions, two regiments of SAMs and seven independent AA artillery battalions. Several batteries of ZSU-57-2s were also attached to the 201st and 202nd Armored Regiments. Here a battery of these self-propelled AA guns moves into position just north of the DMZ. (Socialist Republic of Vietnam)

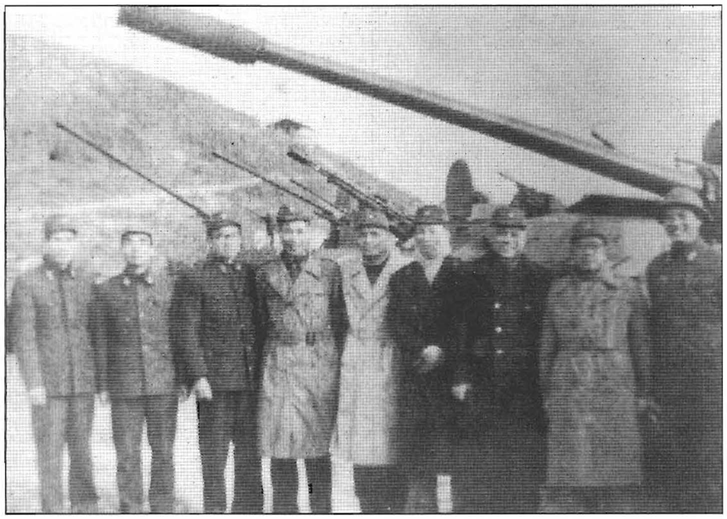


The ZSU-57-2 was armed with S-68A 57mm twin AA cannons mounted on an open turret. The vehicle was a modified and lightened hull of the famous T-54 tank. Following Soviet practice, the PAVN ZSU-57-2 served in air defense batteries in an armored regiment. The PAVN often employed its ZSU-57-2 against ground targets with devastating effect.

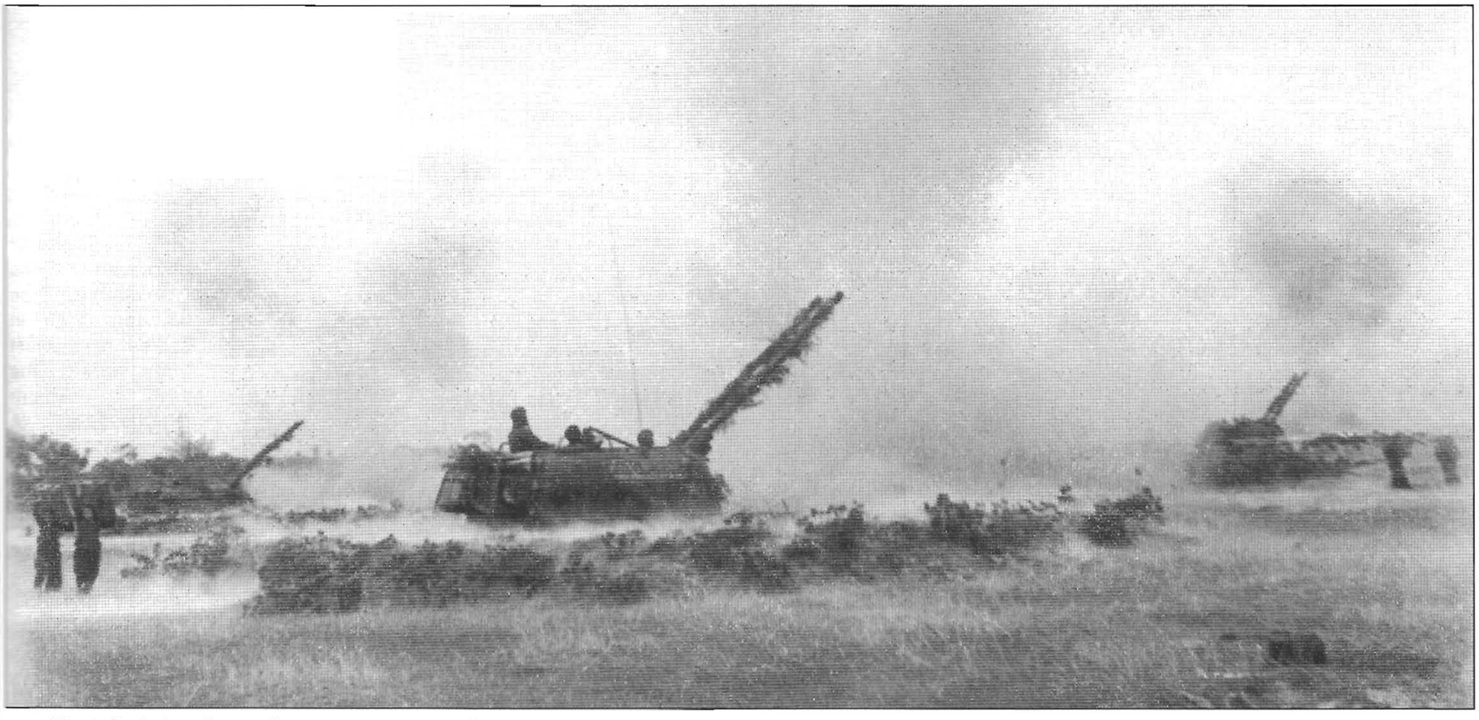


This close-up view of the turret of a PAVN ZSU-57-2 shows the basic configuration of the gun and its sights. All of the aiming was done visually, without the aid of tracking radar that could limit the usefulness of the system. Three hundred rounds of ammunition were carried in the vehicle. A canvas shade, which was stored at the back of the turret, could be deployed to protect the crew from adverse weather. (Socialist Republic of Vietnam)

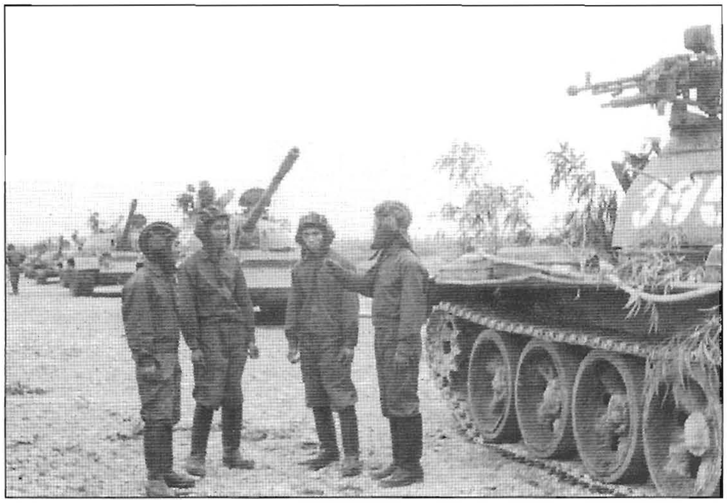
Militia women help to replenish the ammunition in a PAVN ZSU-57-2. The rounds are mounted in clips of four that were introduced manually into the breach of the gun. On the turret is painted the slogan "For Independence and Freedom." (Socialist Republic of Vietnam)



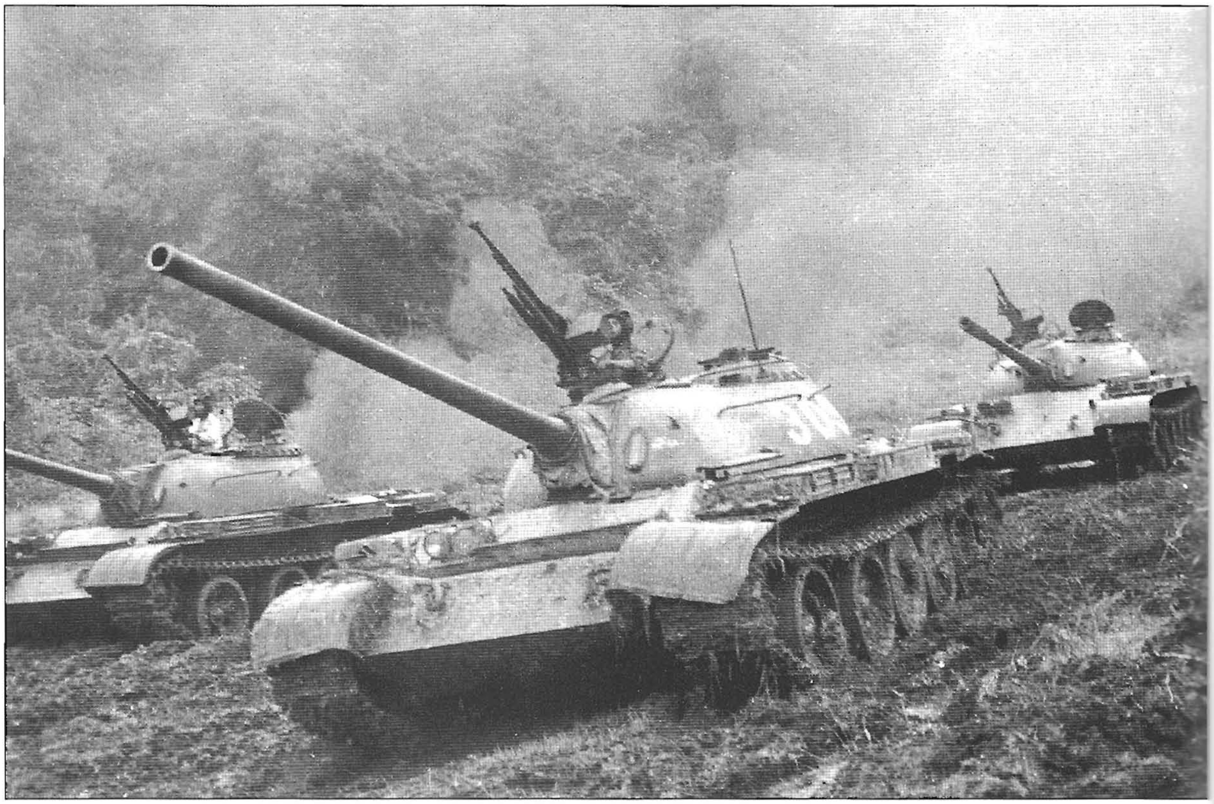
Beside the use of the ZSU-57-2, the PAVN workshop also improvised some other armored anti-aircraft vehicles. These locally produced vehicles included a twin 37mm guns in an open turret mounted on a T-34 chassis, and 14.5mm machine gun and 23mm twin guns in a turret installed on the rear deck of a BTR-50PK APC. Very few photographic evidences existed of these local productions. In this photo, showing the visit of Colonel General Van Tien Dung to the PAVN A-7 Armor Workshop Unit, it can be seen a BTR-50PK modified with a twin 23mm guns on the rear deck. The vehicle is second from right, and when only the front of the vehicle could be seen, the twin 23mm gun tubes could be clearly identified, protruding above the driver's station. (Socialist Republic of Vietnam)



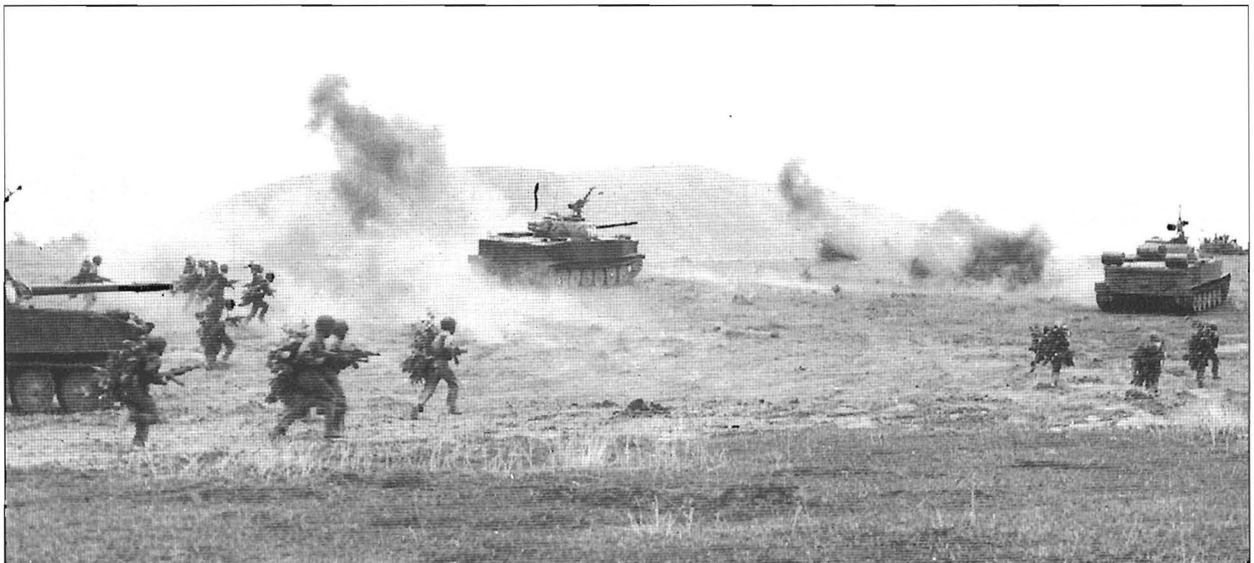
The US tried to disrupt the expected PAVN offensive by resuming bombing of the southern region of North Vietnam. Here a dug-in battery of PAVN ZSU-57-2s protects a position during an air strike. The large rear turret bin is used to catch spent shell casings. (Socialist Republic of Vietnam)



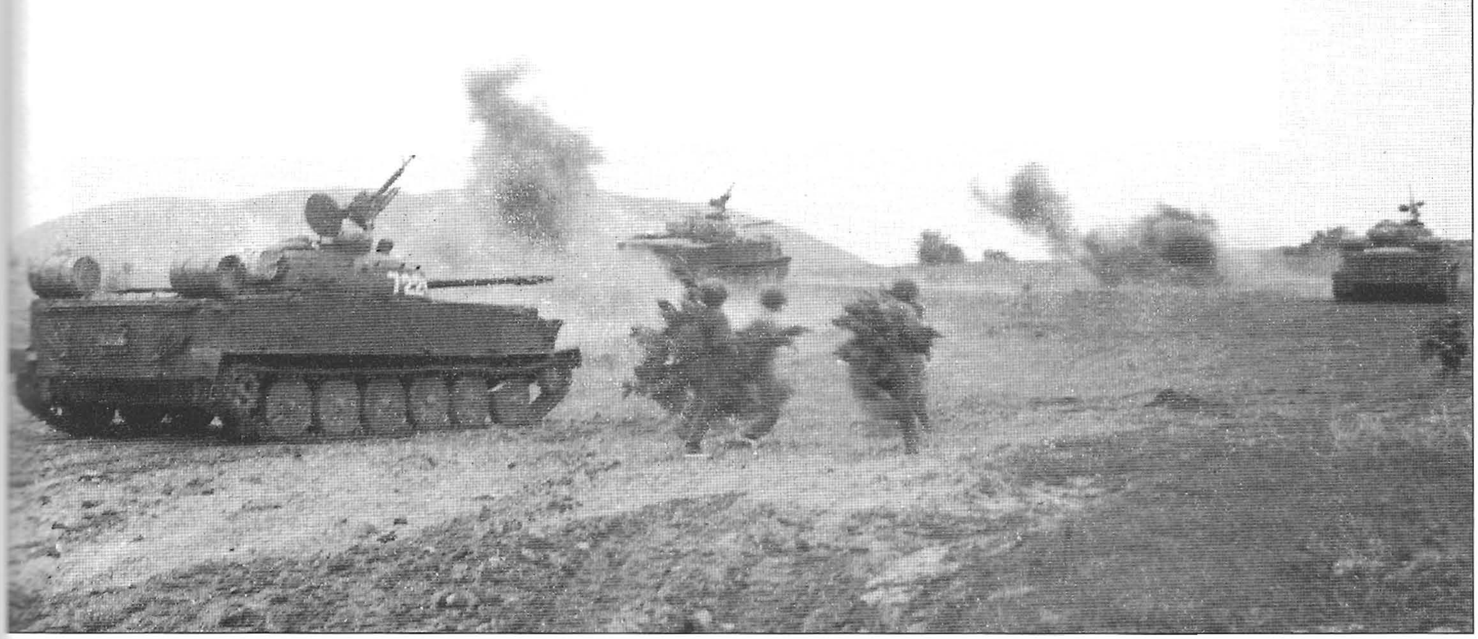
The crew of these Type 59 tanks of the 201st Armored Regiment receive final instructions before the opening of the Nguyen Hue Offensive. Their vehicles are camouflaged with foliage to hide them from aerial observation. Note that the crew are wearing Soviet leather boots, an item rarely issued to PAVN tankers. (Socialist Republic of Vietnam)



The Nguyen Hue Offensive started on 30 March 1972 following an intense artillery barrage against the ARVN forward positions along the DMZ. The PAVN armored columns were shielded by bad weather that grounded enemy aircraft for nearly a week. Here a column of T-54As of the 201st Armored Regiment is seen advancing unopposed through the forward fire support bases of the ARVN 3rd Division. (Socialist Republic of Vietnam)

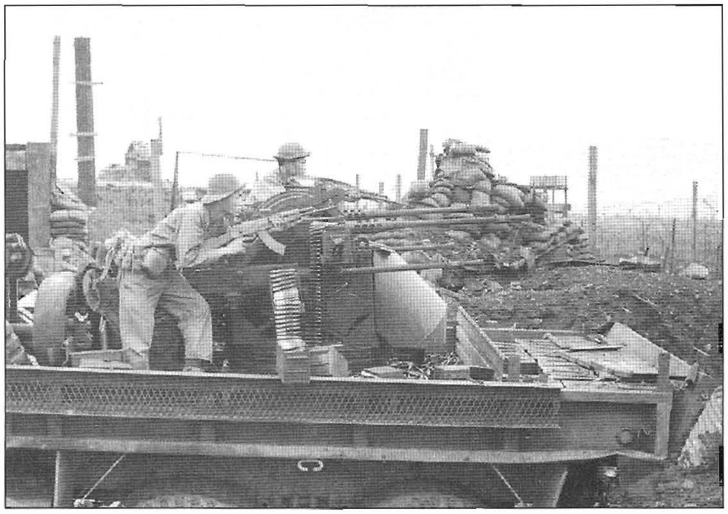


The PAVN employed the Chinese-built Type 63 light tank in combat for the first time during the 1972 Easter Offensive. A platoon of Type 63s of the 202nd Armored Regiment attacked an ARVN fire support base with Dac Cong special forces troops in the opening phase of the Nguyen Hue Offensive.

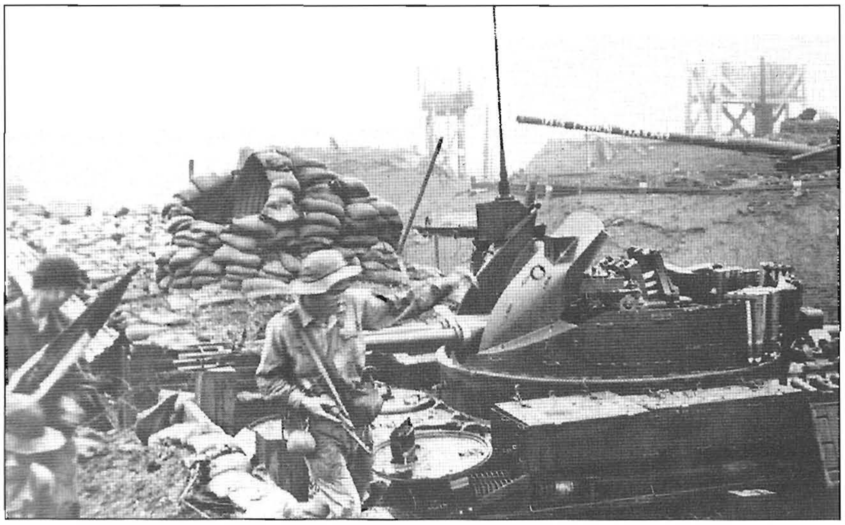


The Type 63 is based on the Soviet PT-76 tank. The hull was strengthened to accommodate a new turret that housed an 85mm gun instead of the original 76mm gun. The vehicle retained its amphibious capacity. Note the external fuel tanks mounted on the engine deck. (Socialist Republic of Vietnam)

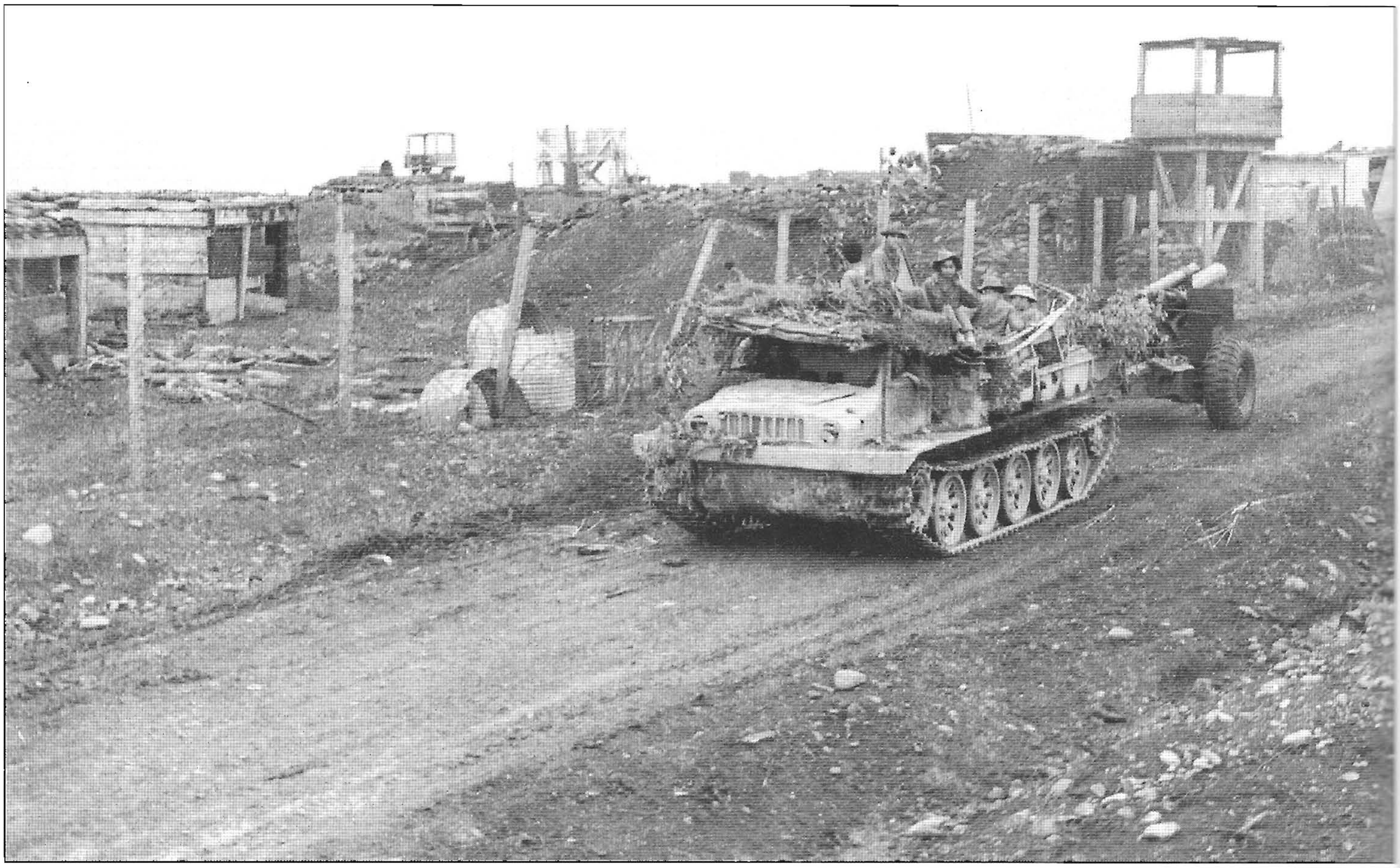
On 2 April 1972, the ARVN Camp Carrol/Tan Lam fire support base, located on the southern bank of the Cua Viet River, surrendered to the North Vietnamese. It was the ARVN's most important artillery base in the DMZ sector, covering the main approaches from North Vietnam. There the PAVN captured twenty-two guns, including four M-107 SP guns. North Vietnamese infantry captured one of these weapons that was later pressed into service with the Communist forces. (Socialist Republic of Vietnam)



At Camp Carrol the PAVN also captured intact this .50 caliber quad-mount machine gun installed on an M-54 five-ton truck. The quad .50 caliber mount was the anti-aircraft mount used on the Second World War M-16 half-track anti-aircraft vehicle. The ARVN used it for direct fire support against ground targets. (Socialist Republic of Vietnam)

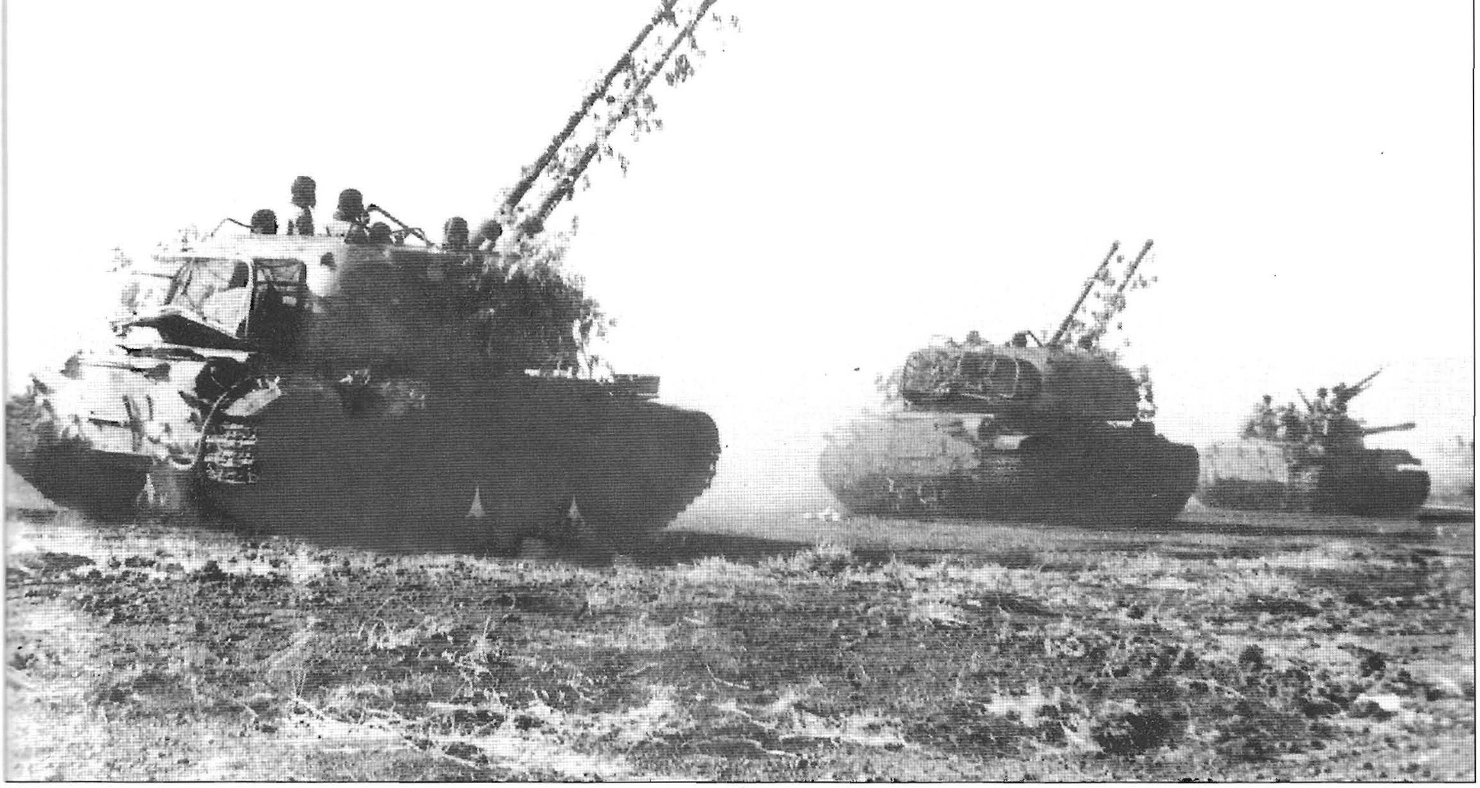


Also captured at Camp Carrol was this M-42 Duster, which was one of three deployed along the perimeter of the base to provide direct fire support with its twin 40mm guns. The vehicle was dug-in to offer a low profile, with only the turret emerging at ground level. (Socialist Republic of Vietnam)

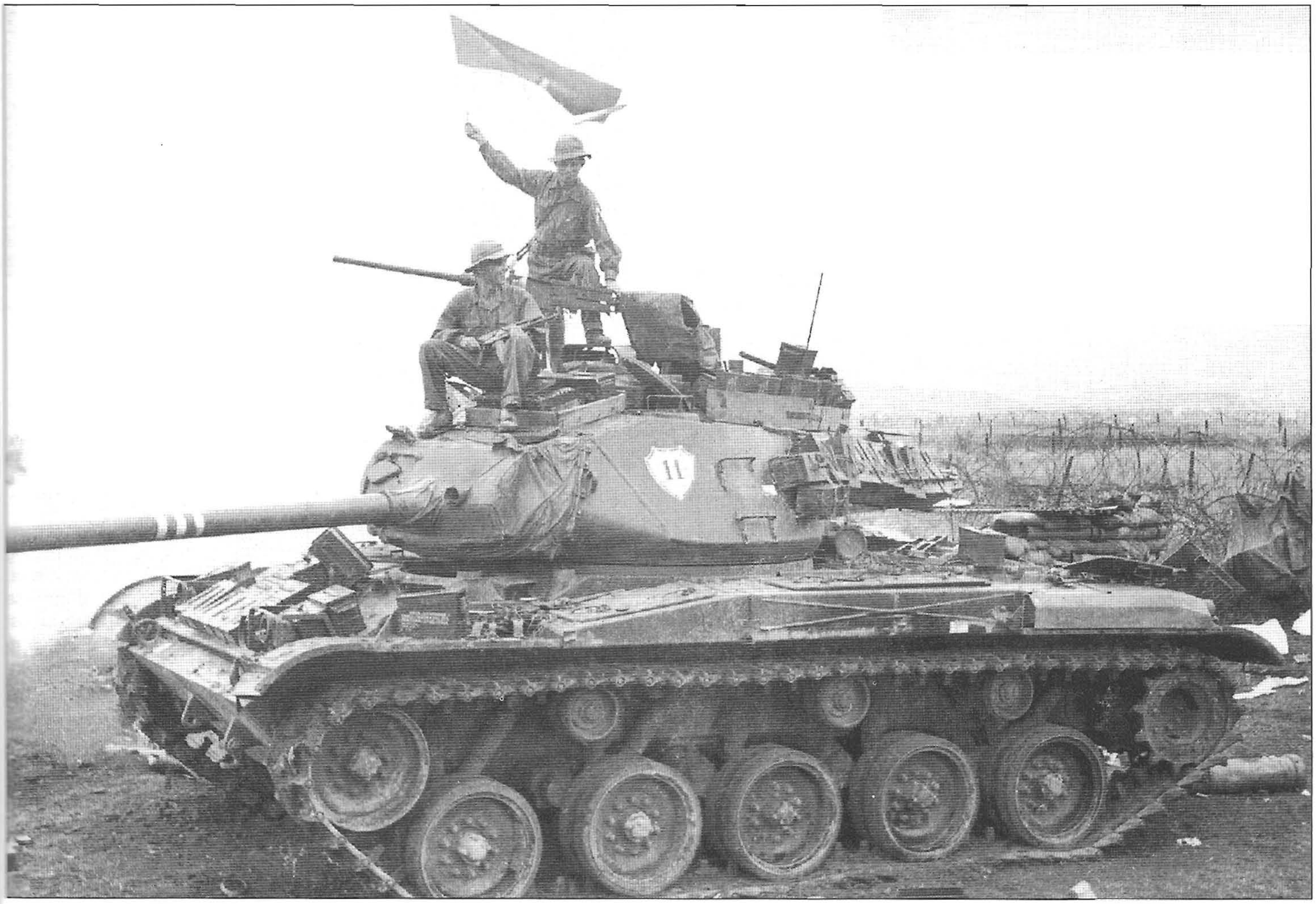


As soon as Camp Carrol fell, the PAVN sent in artillery tractors to tow away the captured ARVN guns and howitzers. The South Vietnamese had not sabotaged their equipment before surrendering, so the Communists were able to immediately put it into service. Here an ATS-59 artillery tractor, which is camouflaged with brush, tows away a US-built M-114 155mm howitzer. (Socialist Republic of Vietnam)

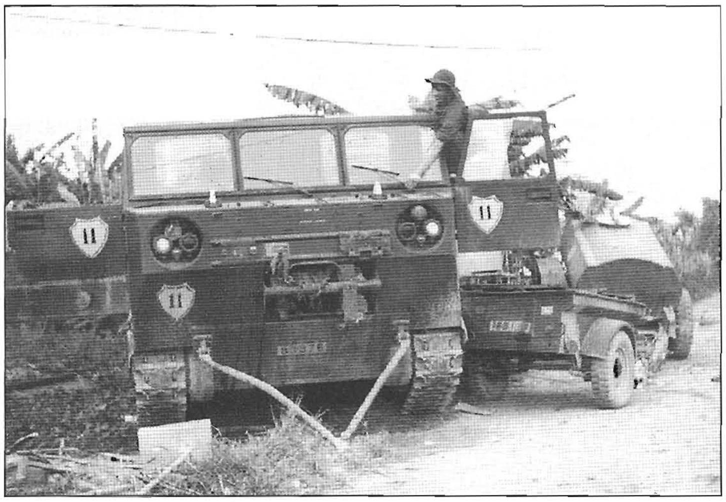
CHI KHU CAM LO



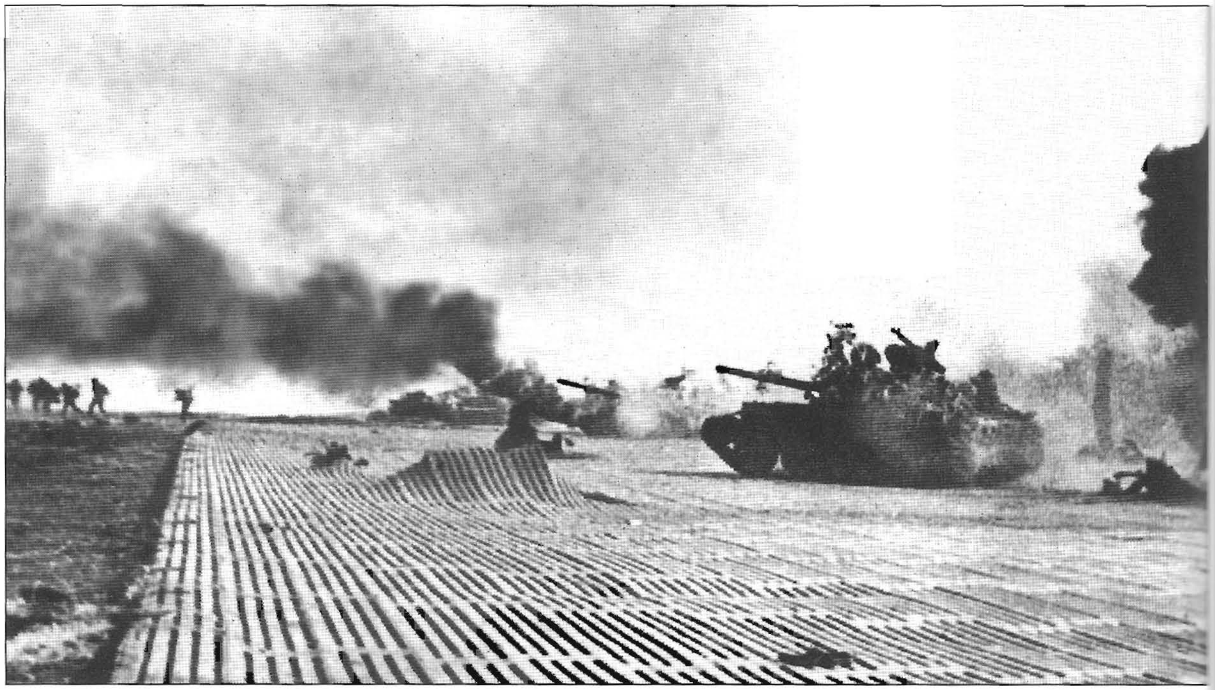
The bad weather that shielded the PAVN attack across the DMZ lasted nearly a week. When the sky cleared, the US and VNAF aircraft posed a most serious threat to the PAVN armored units. Here a pair of ZSU-57-2s cover the advance of a column of T-54s. (Socialist Republic of Vietnam)



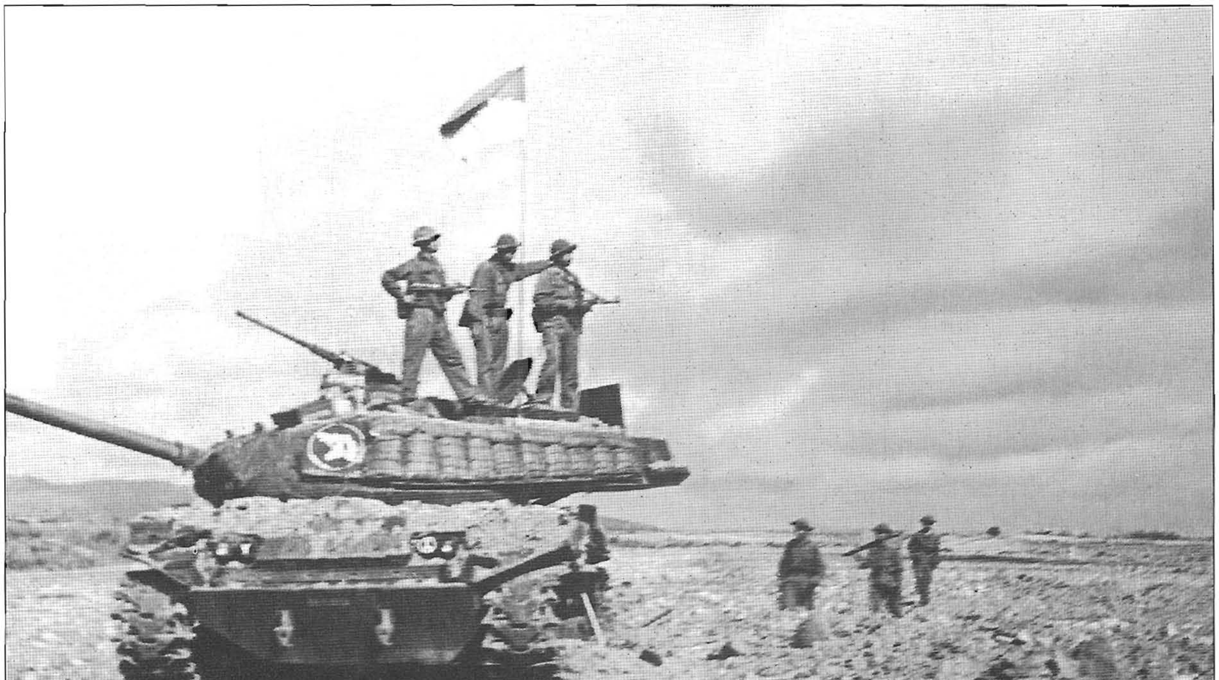
After holding a defensive line along the Dong Ha River for more than a week, the ARVN I Armored Brigade was finally outnumbered and forced to withdraw to the south. This M-41A3 of the 11th ACR was captured by the PAVN near the town of Dong Ha on 19 April 1972. (Socialist Republic of Vietnam)



At Dong Ha the PAVN also found this abandoned M-548 that had belonged to the ARVN 11th ACR. The towing bars attached to the front of the vehicle indicate that the vehicle had broken down and that the ARVN had tried unsuccessfully to recover it. (Socialist Republic of Vietnam)



In the second half of April 1972, the invading PAVN was subjected to an intense interdiction air campaign, but it could not stop the advance of the North Vietnamese toward the south. On 1 May, T-54 tanks of the 202nd Armored Regiment stormed across the Quang Tri airfield, a US Army and Marine helicopter base. The fall of the Quang Tri provincial capital was the most important success achieved by the PAVN in South Vietnam's I Corps. (Socialist Republic of Vietnam)



The ARV
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Note that the turret
ringed with sandba
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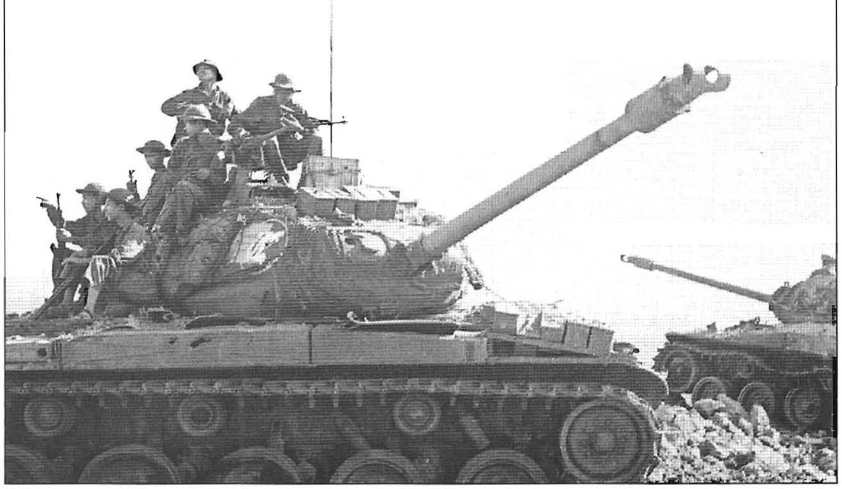
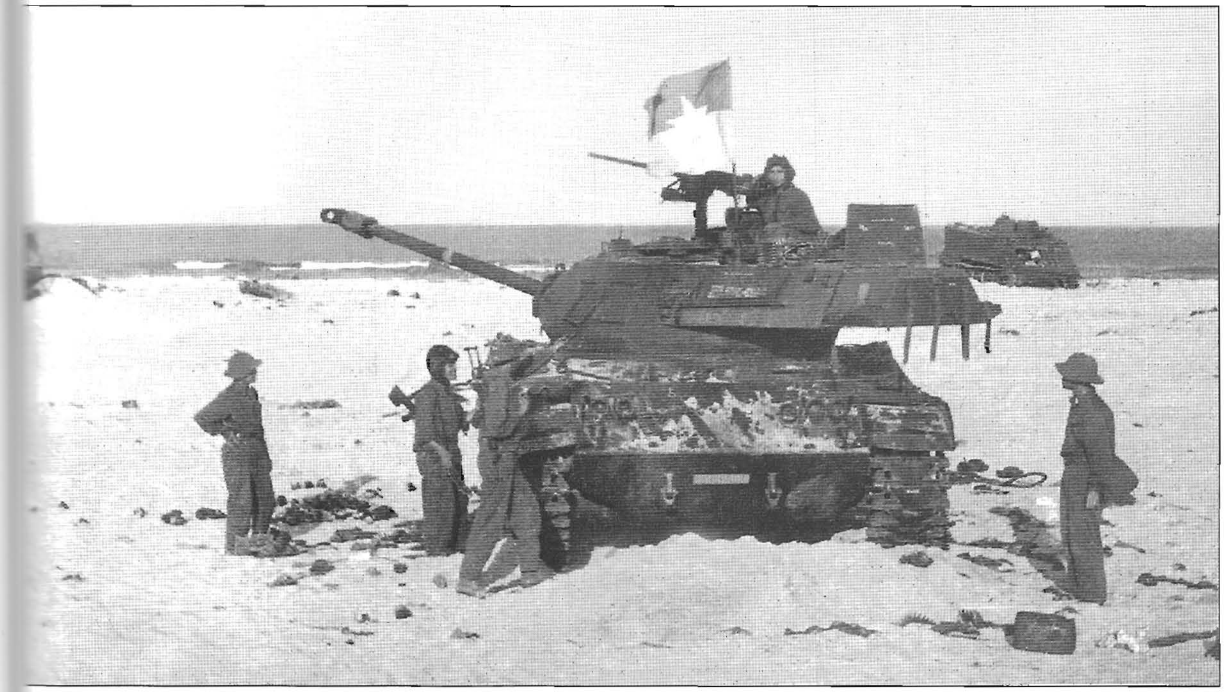
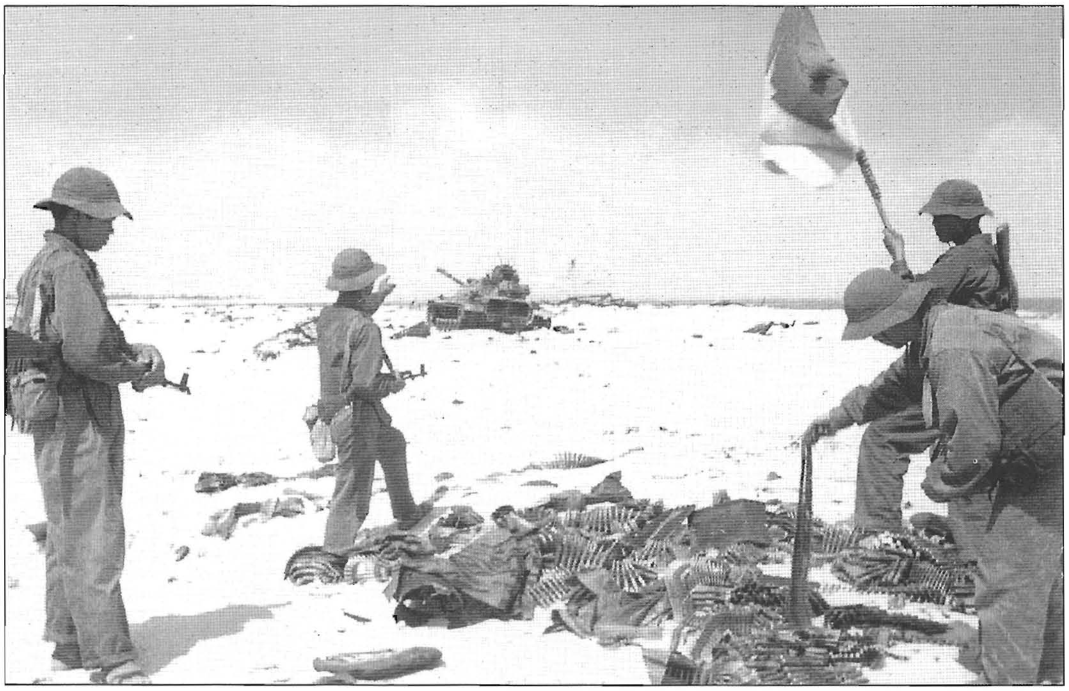
bandoned by their crew after an intense artillery barrage, which nctured the stowage boxes above the fenders of the tank in e foreground. The front of this vehicle is covered with empty mmunition boxes filled with sand that were intended to etonate shaped-charge rockets. (Socialist Republic of etnam)



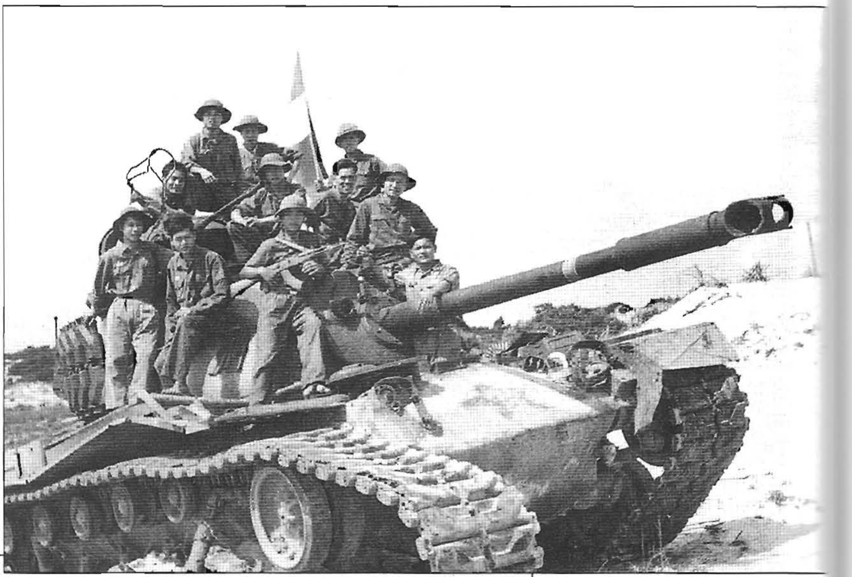


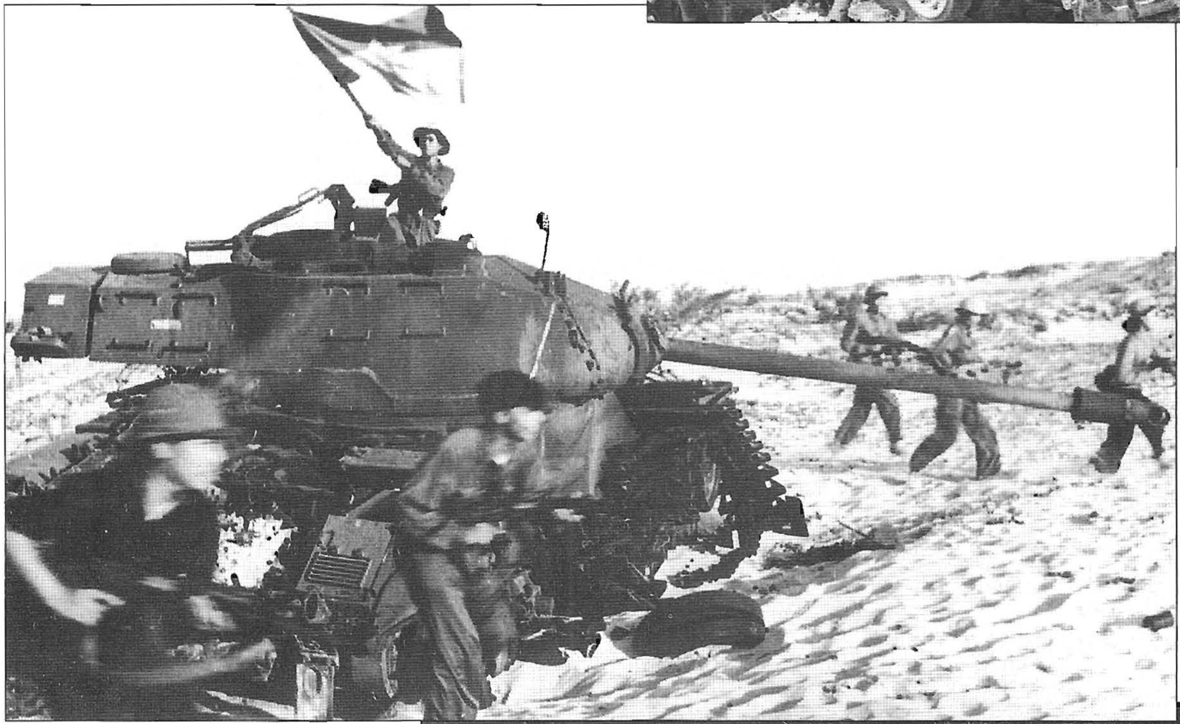
The ARVN I Armored Brigade tried to bypass Highway 1, which was congested with civilian refugees, by cutting across the shoreline east of the road. The crew of a Type 63 tank of the PAVN 202nd Armored Regiment inspects an ARVN M-41A3 that was abandoned on the beach. Two disabled M-113s are visible in the background. A National Liberation Front (Viet Cong) flag is affixed to the turret of the tank, giving false support to the myth that the "liberation forces" were local guerrillas and not the regular forces of North Vietnam. (Socialist Republic of Vietnam)



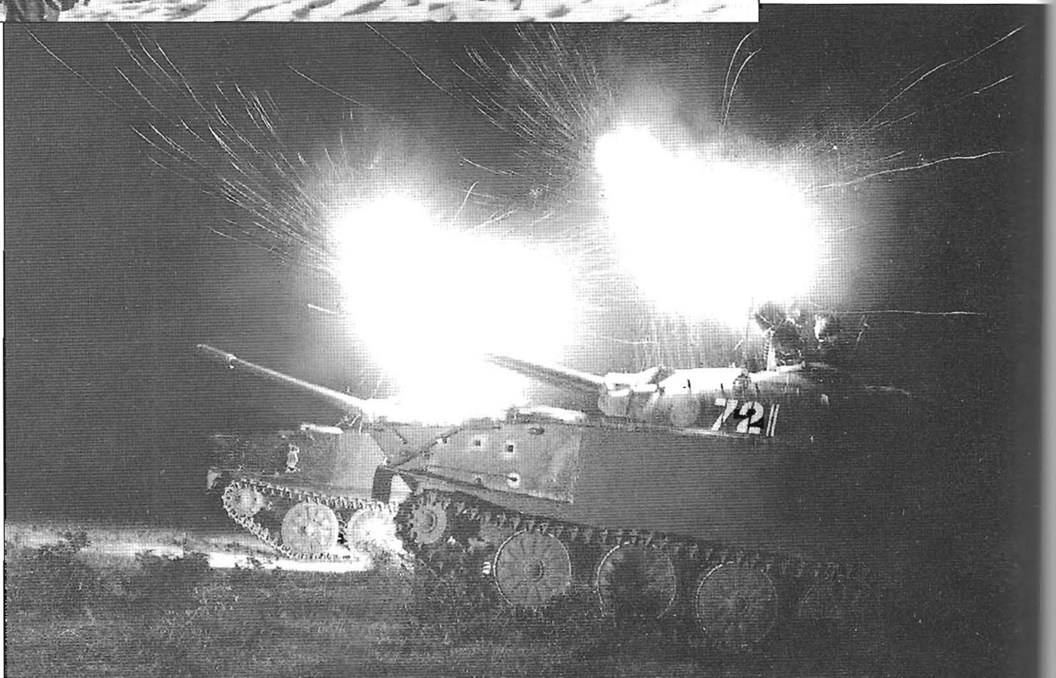
PAVN troops inspect abandoned 50 caliber machine gun ammunition elts. In the distance is a disabled RVN M-48A3 tank of the 20th Tank egiment, which at the time was the nly South Vietnamese tank unit quipped with the Patton. The vehicle st its right track and was abandoned y its crew. (Socialist Republic of etnam

After putting up a spirited fight in which they dominated their PAVN adversaries, the M-48A3s of the ARVN 20th Tank Regiment were forced to withdraw south following the fall of Quang Tri. Nearly all of the regiment was wiped out in the ensuing retreat. The unit was constantly attacked and harassed by Communist armor, artillery bombardments and road blocks set up by PAVN infantry armed with AT-3 Sagger missiles. This vehicle apparently hit a mine and was abandoned. (Socialist Republic of Vietnam)



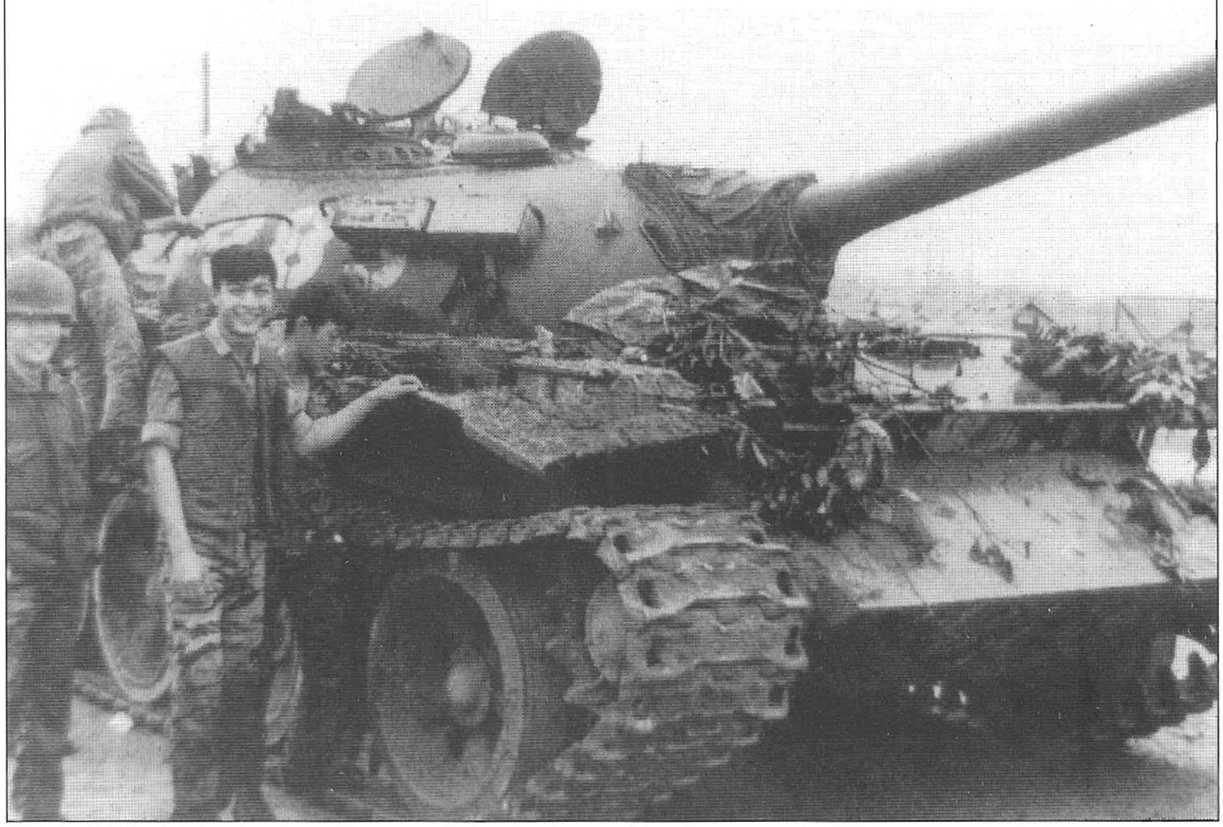


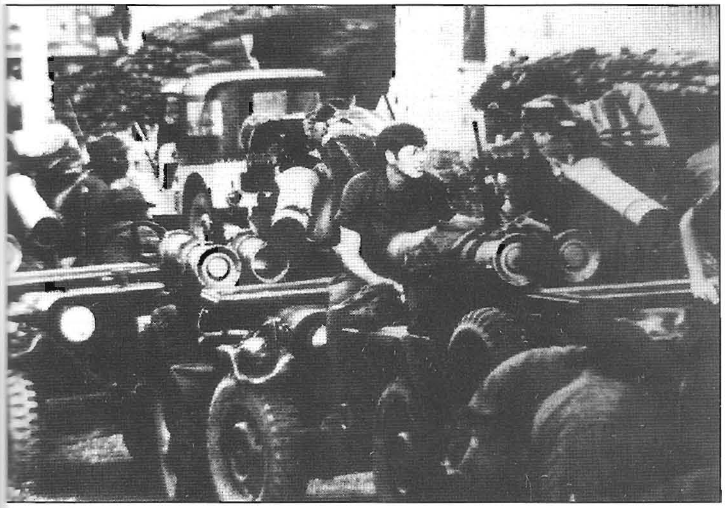
This ARVN M-41A3 o the ARVN I Armore Brigade was said to b knocked out by a Type 6 tank from the PAVN 202n Armored Regiment. A hit i the engine compartme started a fire that burne out the vehicle. (Socia Republic of Vietnam)



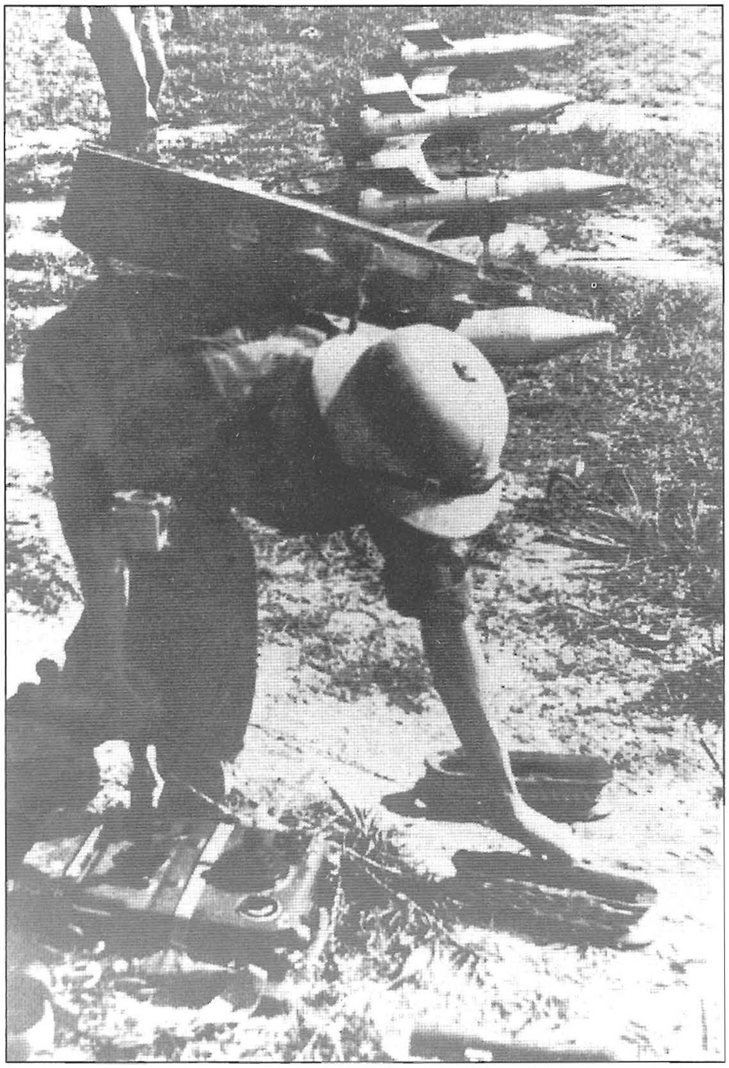
The complete air supremacy of the USAF and VNAF often forced the PAVN to employ its tanks at night. Here a pair of Type 63s of the 202nd Armored Regiment spectacularly engage a target with their DShK 12.7mm machine guns across the Bo River north of Hue. For several weeks the PAVN launched armored assaults, with amphibious tanks and APCs trying to cross the river, but they never succeeded. The ancient capital of Vietnam never fell; South Vietnamese troops from the Airborne, Marine and 1st Infantry Divisions

Armored Regiment was captured by South Vietnamese Marines on 10 April 1972 in the battle for FSB Pedro. The vehicle was found abandoned, with the engine still running. (ARVN)

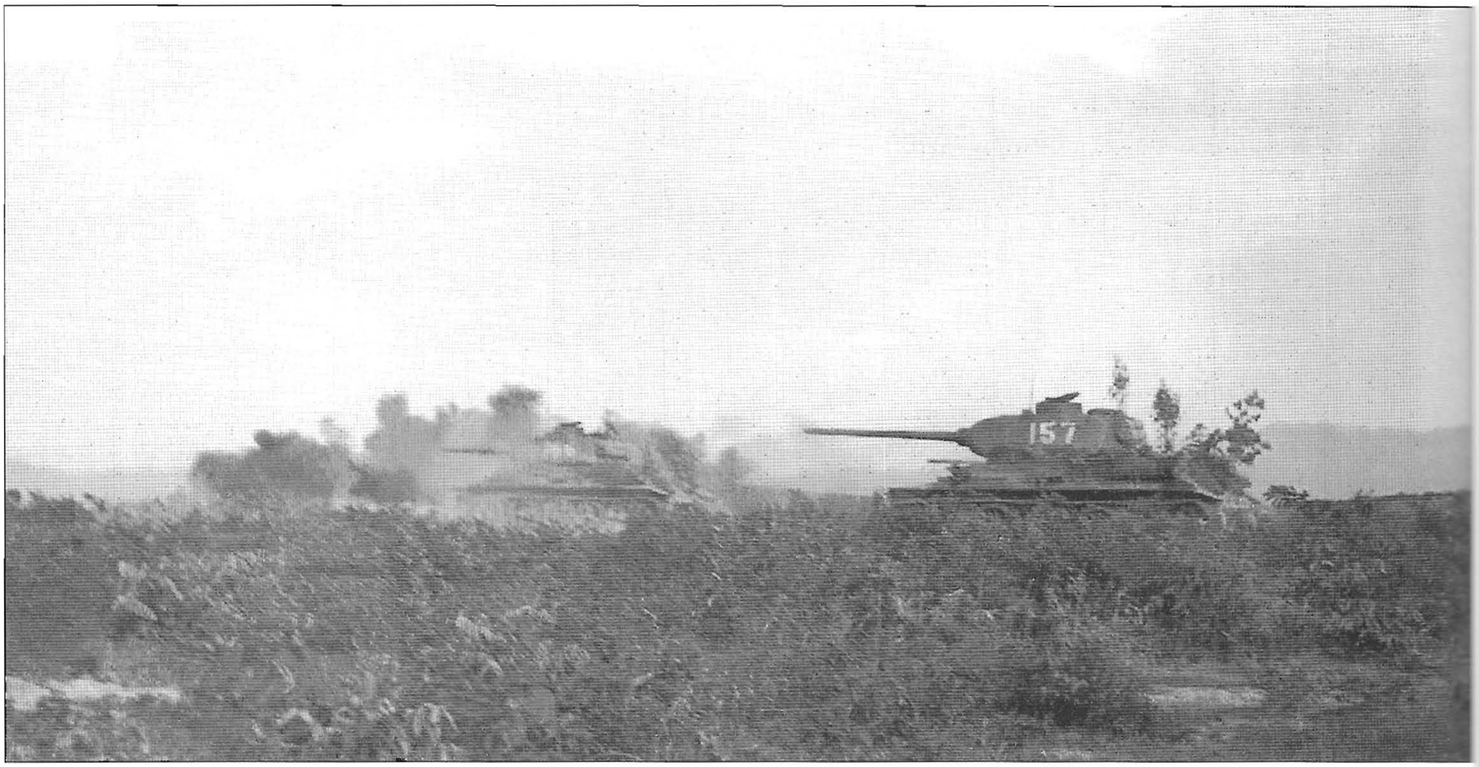




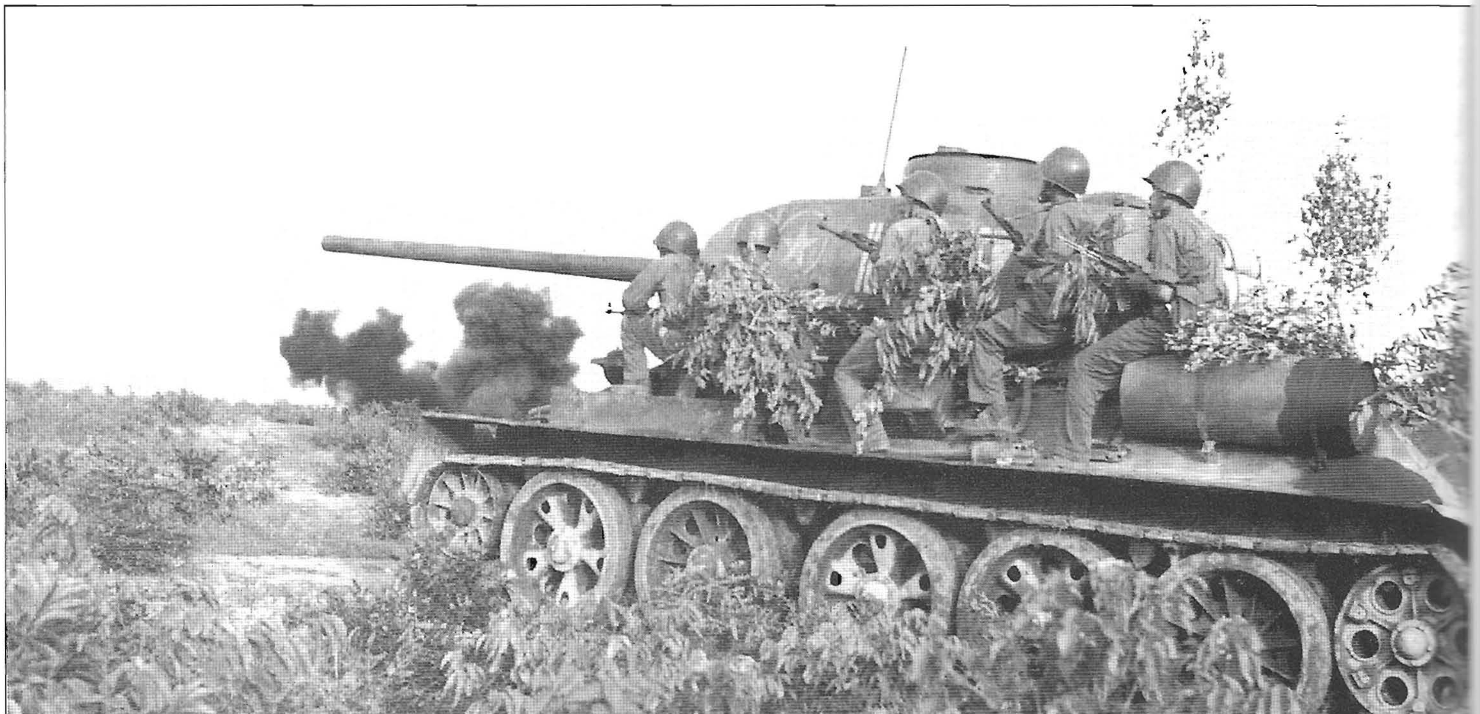
This photograph shows TOW anti-armor weapons mounted on M-151 Jeeps belonging to the US 1st Cavalry Division in Vietnam in May 1972. This experimental team, which was deployed along the Perfume River north of Hue, helped to foil several PAVN attempts to cross the river. By that time it was probably the last US ground force unit to be engaged in combat in Vietnam. In 1975, the ARVN also deployed some TOWs mounted on M-113 APCs. (USAF)



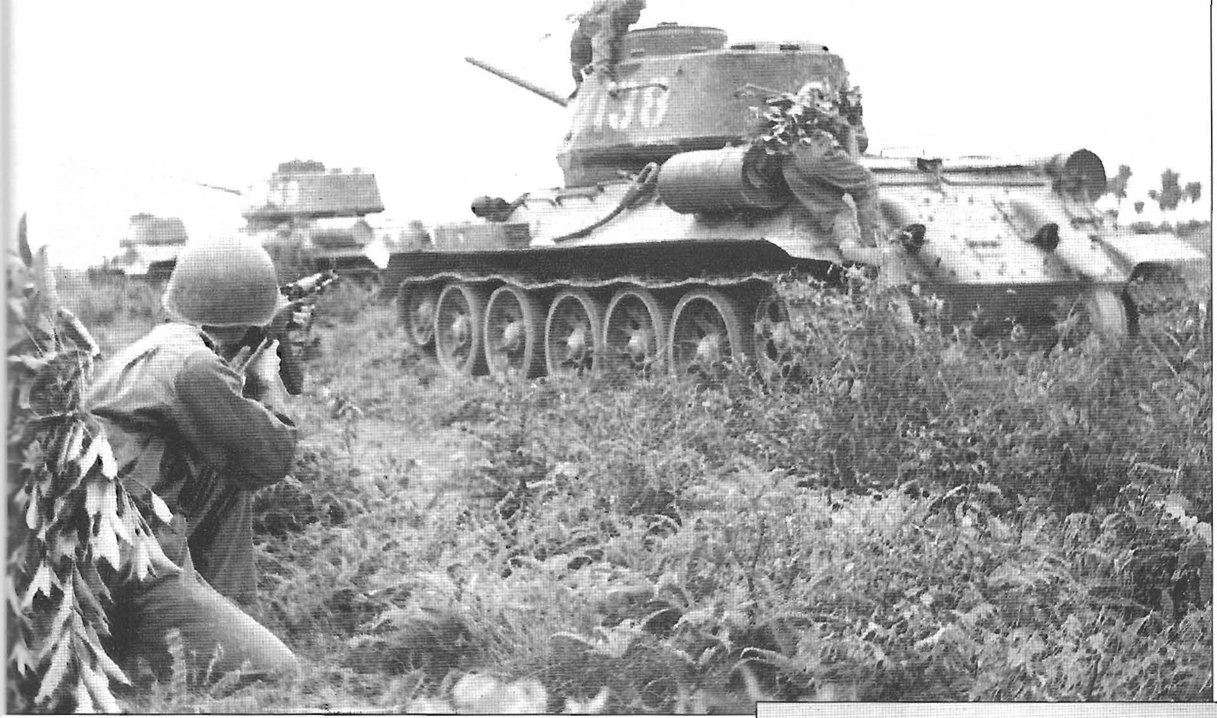
It was during the Nguyen Hue Offensive of 1972 that the PAVN deployed the wire-guided 9M14M anti-tank missile. It was better known in the West as the AT-3 Sagger, while the North Vietnamese local designation for the system was the B-12. The missile was found to be successful, scoring over two dozen kills at Dong Ha, Kontum and An Loc. (Socialist Republic of Vietnam)



The PAVN offensive against South Vietnam's II Corps started on 12 April 1972. The 2nd and 320th Infantry Divisions, supported by the 203rd Armore Regiment, attacked a series of ARVN fire support bases on "Rocket Ridge" north of Kontum. These T-34-85s are advancing against FSB Charlie. (Socia Republic of Vietnam)

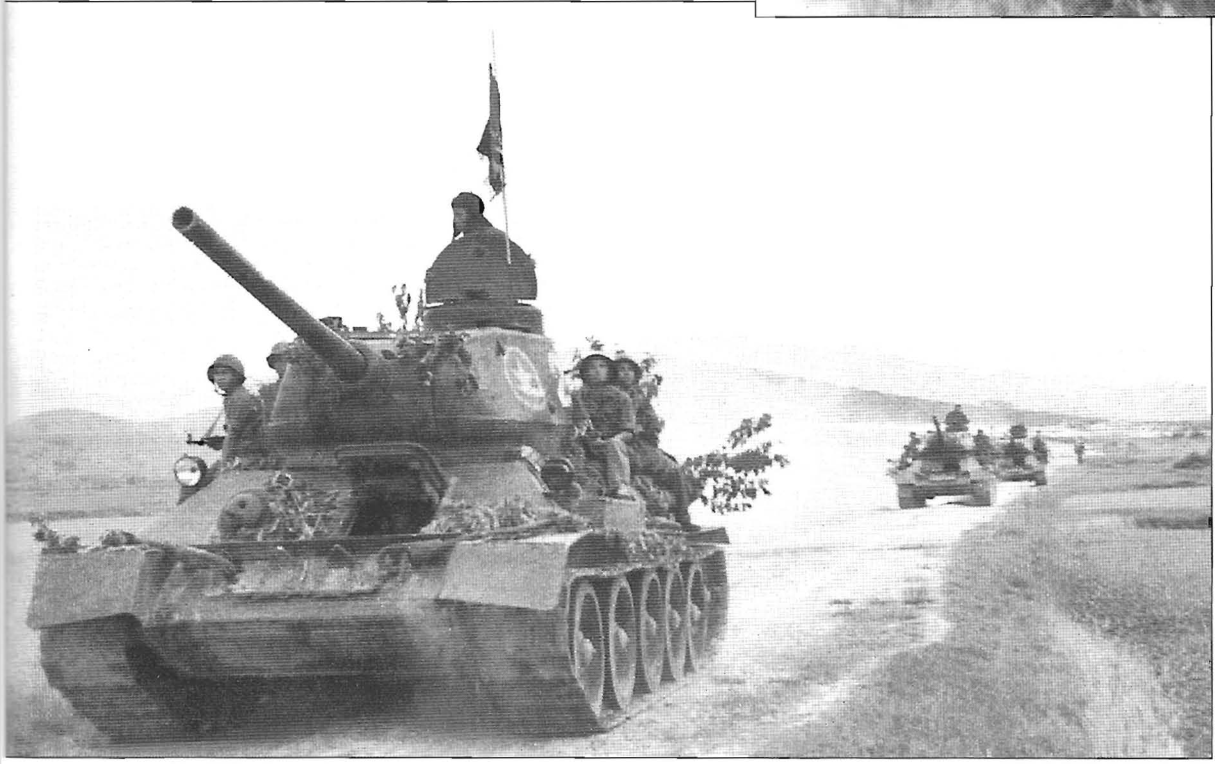


With Dac Cong special forces riding on top of it, an T-34-85 of the PAVN 203rd Armored Regiment advances toward FSB Charlie. Riding in this fash the troops were extremely vulnerable to enemy fire, but the lack of APCs forced the PAVN to resort to this tactic. The Dac Congs were often used as sh

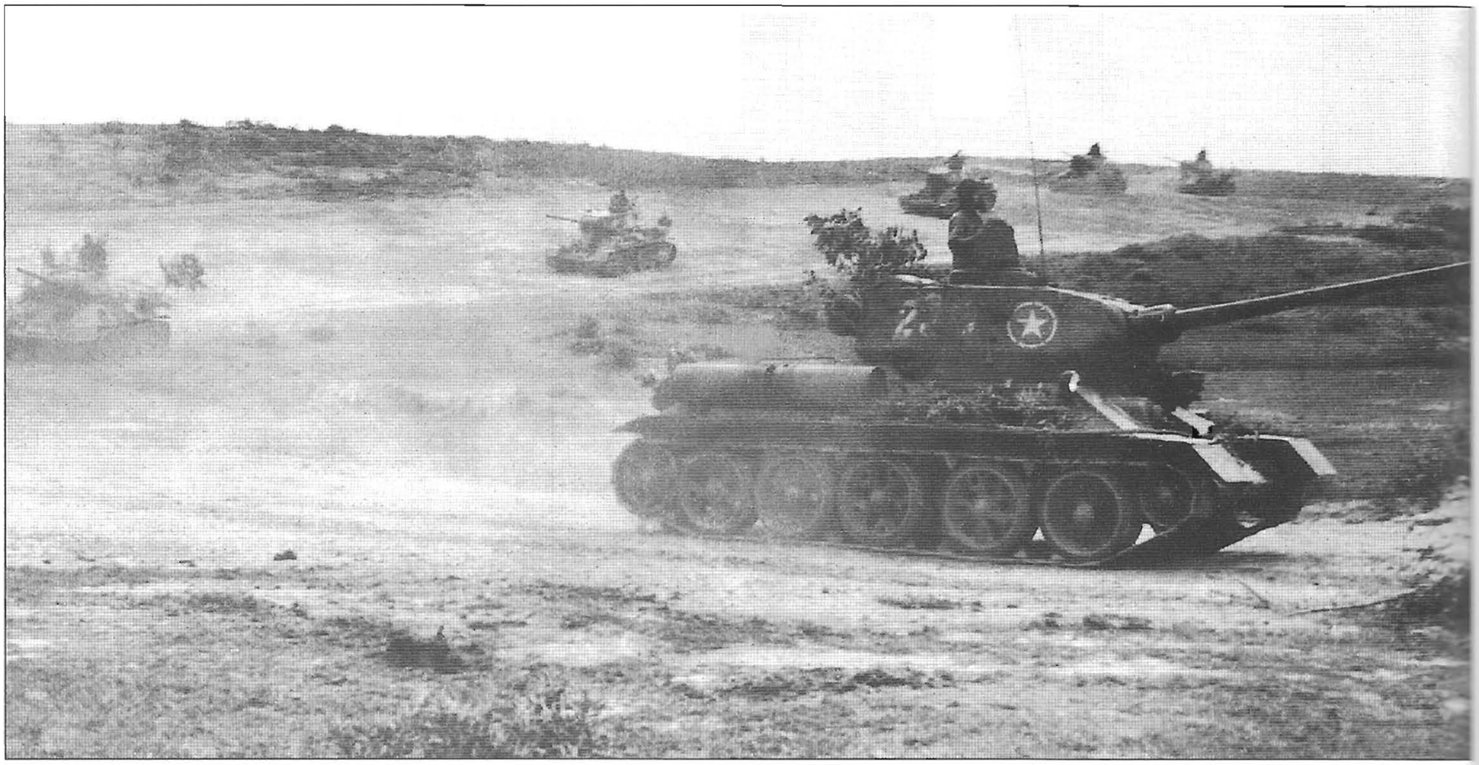


Dac Cong special forces climb back onto the T-34-85s of the 203rd Armored Regiment for the next move. The 203rd Armored Regiment had one battalion of T-34-85s, one of PT-76s and one of T-54s. The appearance of Communist armor in the Central Highlands took the ARVN completely by surprise. Many troops of the 22nd Infantry Division panicked and fled, abandoning their positions without putting up much of a fight. (Socialist Republic of Vietnam)

The last ARVN M-24 Chaffee had been withdraw from service in 1965, except a few that were handed over to VNAF for airbases security. The others served as pillboxes at installations throughout South Vietnam. One of these Chaffees could be seen on this poor quality photo at the Tang Canh outpost north of Kontum. It was destroyed on 24 April 1972 by PAVN T-54s of the 203rd Armored Regiment. Note also the knocked out M-41A3 in background. (Socialist Republic of Vietnam)

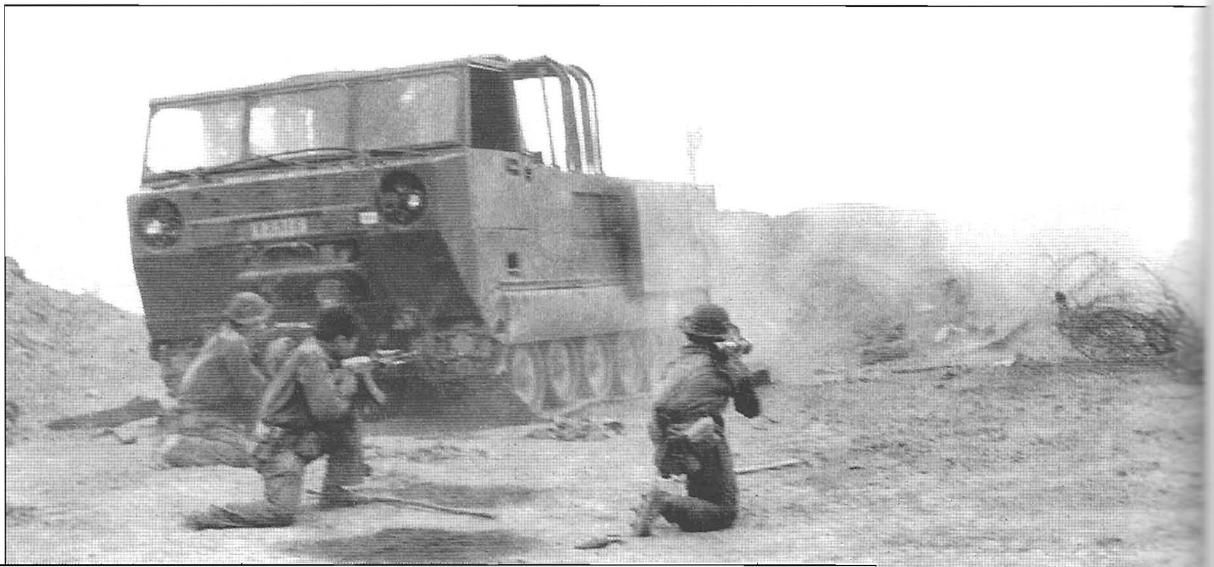


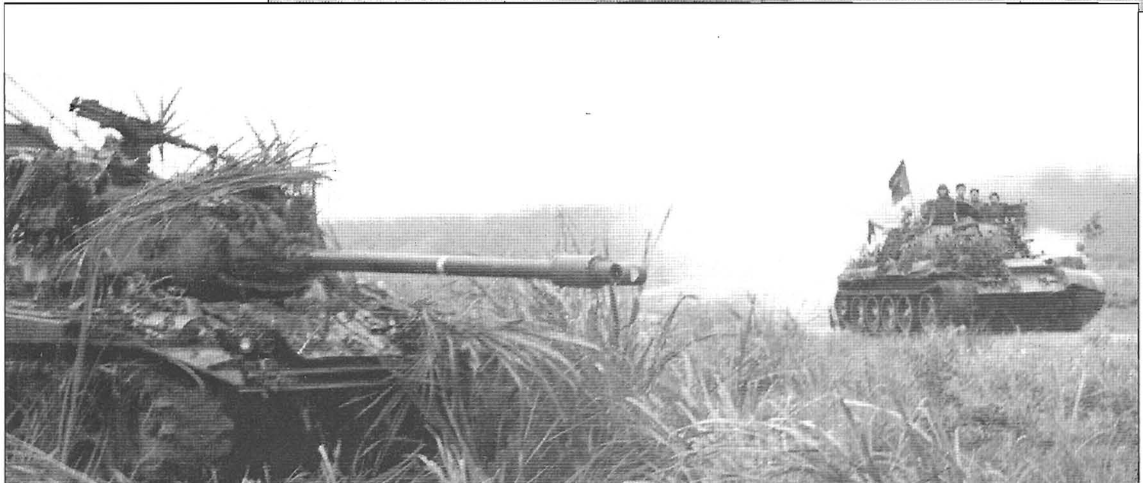
After taking "Rocket Ridge" the PAVN 203rd Armored Regiment moved down to the valley leading to Kontum. The lead tank in this photo has an infra-red driver's headlight on the left side, while the white searchlight has been moved to the right side. This indicates it was a modernized model of a T-34-85 that was rebuilt in the Soviet Union. (Socialist Republic of Vietnam)



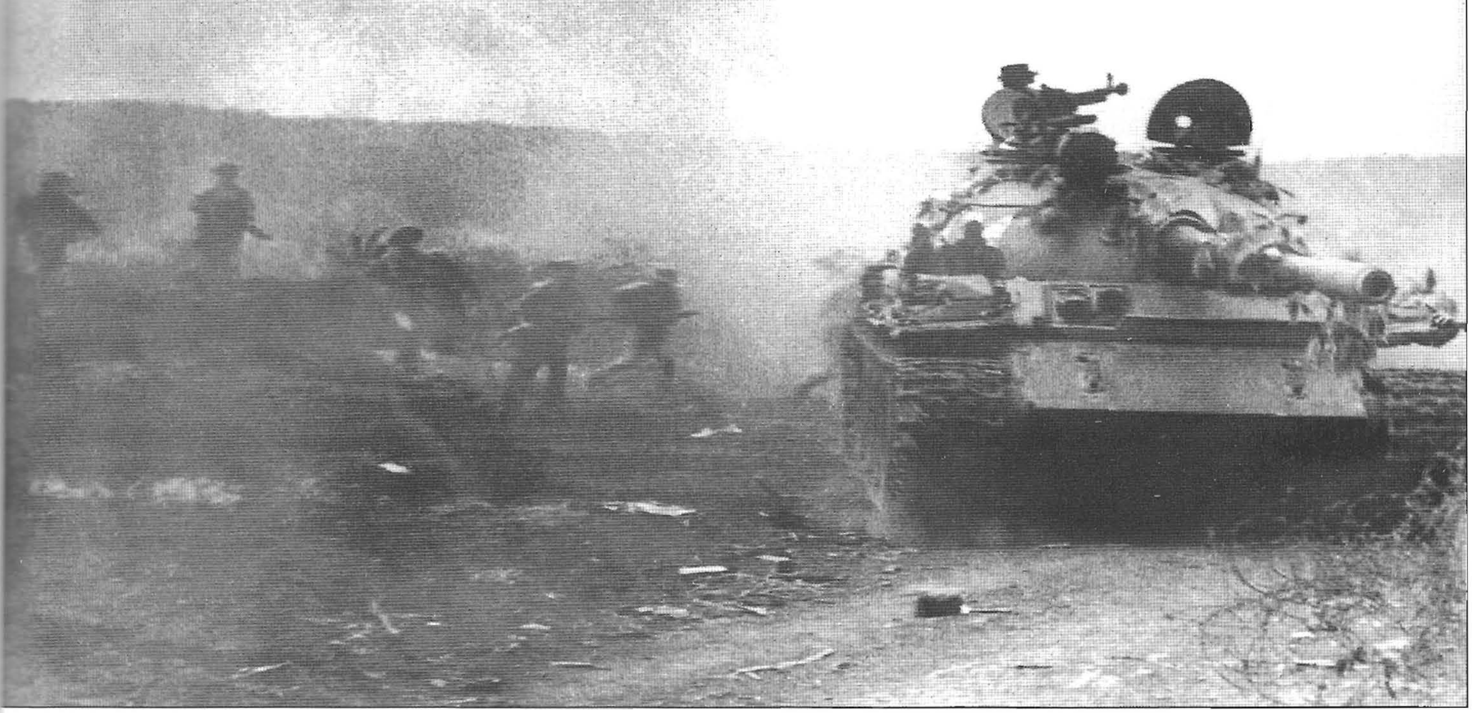
These PAVN T-34-85s were photographed rolling toward Kontum in April 1972. Despite several armor-led assaults against that city, the North Vietnamese never succeeded in taking the town. By that time the ARVN troops had lost their fear of Communist tanks and engaged them with LAW anti-tank rockets. Nearly all of the 203rd Armored Regiment was wiped out in the subsequent fighting, with most of its vehicles being destroyed by air strikes and TOW missile-equipped helicopters. (Socialist Republic of Vietnam)

The PAVN achieved successes at Dak To and Tan Canh near Kontum, where the tanks of the 203rd Armored Regiment inflicted severe losses on the ARVN 14th and 19th ACRs. Here PAVN troops capture an M-548 at Dak To on 24 April 1972. (Socialist Republic of Vietnam)



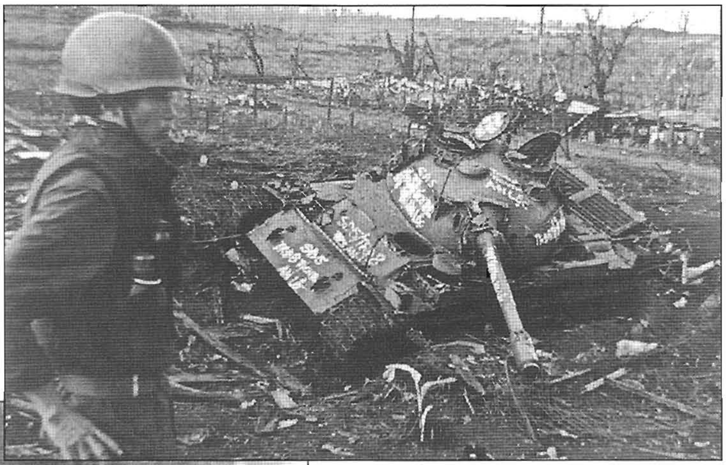


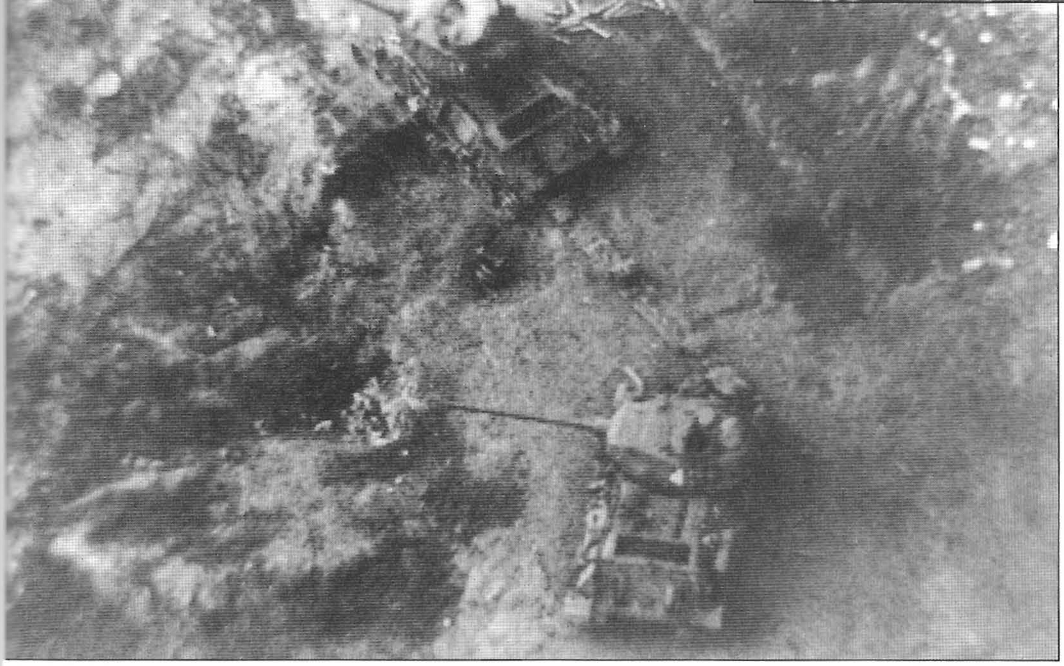
The PAVN offensive against the ARVN III Corps began on 2 April 1972 with an attack against South Vietnamese positions along the Cambodian border in Tay Ninh Province. On 4 April the town of Loc Ninh was taken by a combined infantry/tank assault. Seen here is a T-54 of the 2 Independent Tank Battalion passing by an abandoned ARVN M-41A3 of the 5th ACR/III Armored Brigade. The vehicle was already camouflaged with foliage as the North Vietnamese intended



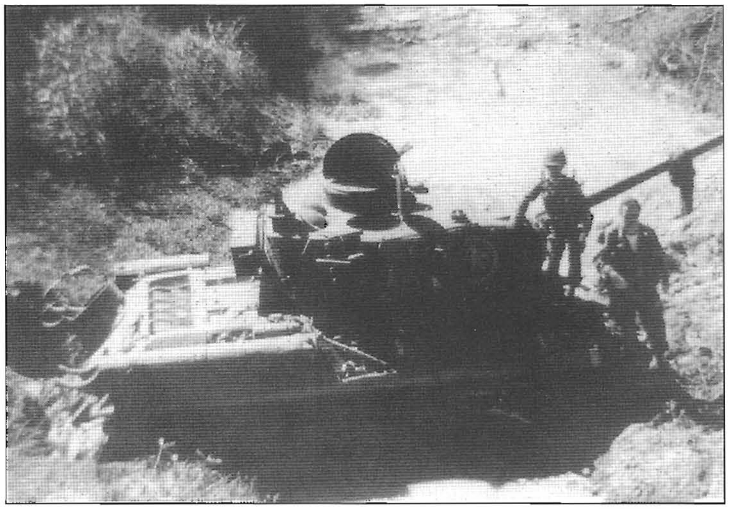
A T-54B of the PAVN 20th Independent Tank Battalion supports the third and last assault against the besieged city of An Loc on 14 May 1972. The fall of An Loc would have opened the way for a direct assault against Saigon. Every Communist assault was crushed by heroic ARVN resistance and massive B-52 strikes. The North Vietnamese lost 90 T-54 tanks around An Loc. (Socialist Republic of Vietnam)

The loss of a majority of the PAVN armor during the 1972 offensive was due to air strikes. This T-54B was knocked out near An Loc. The inscriptions painted on the hull and the barrel of the gun were made by the ARVN soldiers. (USAF)

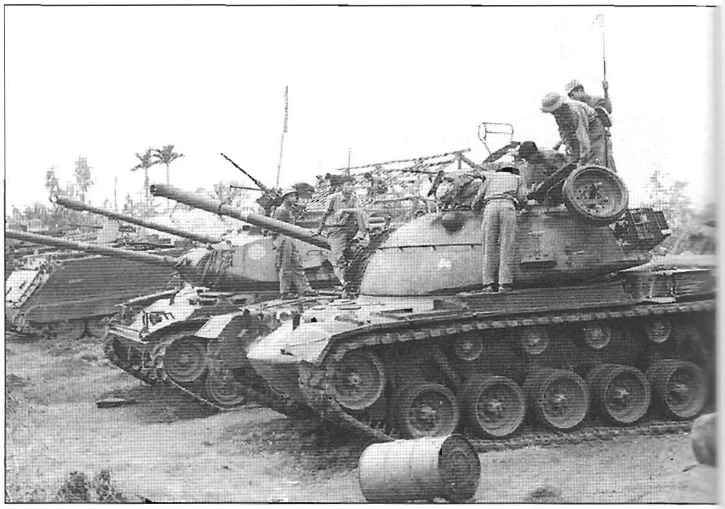




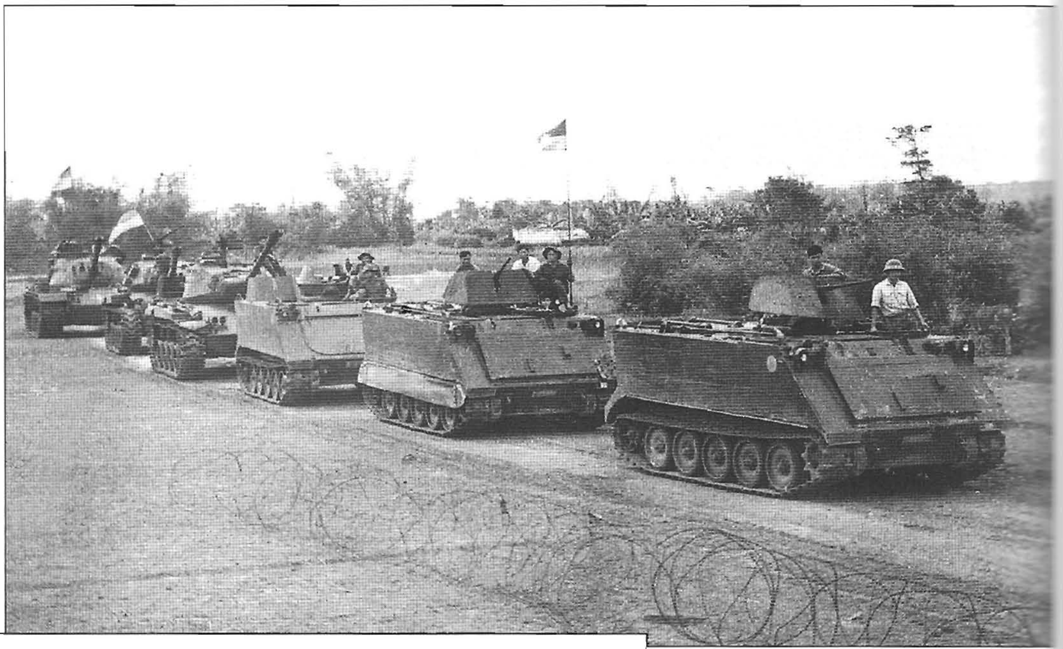
In March 1972, the PAVN launched an offensive against Long Tieng, the Hmong guerrilla headquarters in northern Laos. The drive was supported by T-34-85s. Three tanks were sent towards the Skyline Ridge that overlooked the Long Tieng Valley. Two of them reached the summit, but were disabled by mines. As is evidenced by the discarded brass casings, however, one tank continued to fire even after losing its treads. (Ken Conboy Collection)



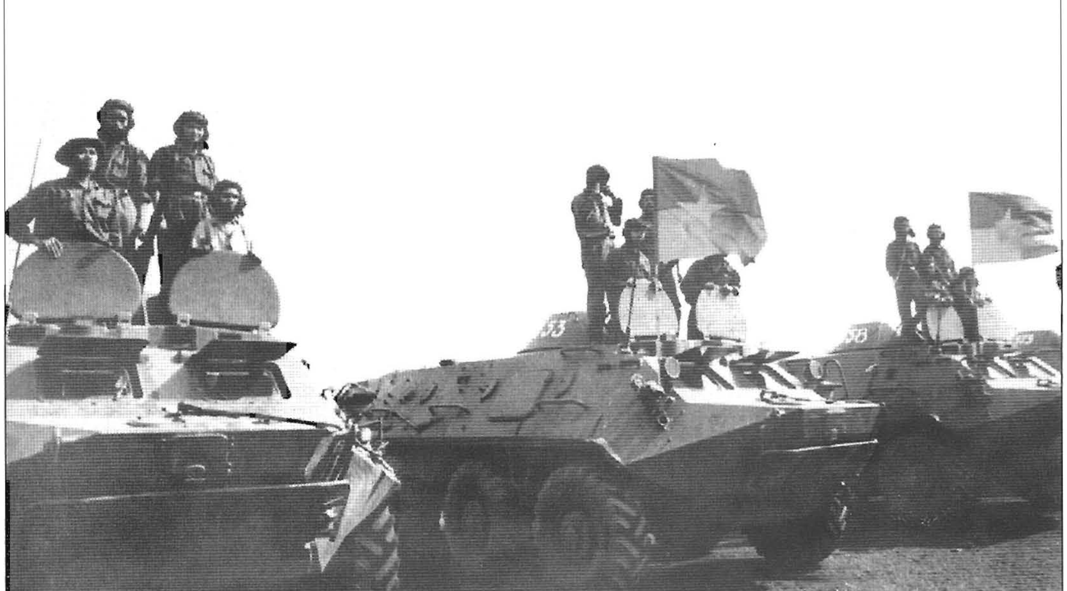
This PAVN T-34-85 was knocked out by Hmong guerrillas at Muong Phalane in November 1972. Despite reservations expressed by the PAVN General Headquarters about the feasibility of deploying tanks in northern Laos, the North Vietnamese Armor Directorate proved that tanks could operate in mountainous areas. (Ken Conboy Collection)



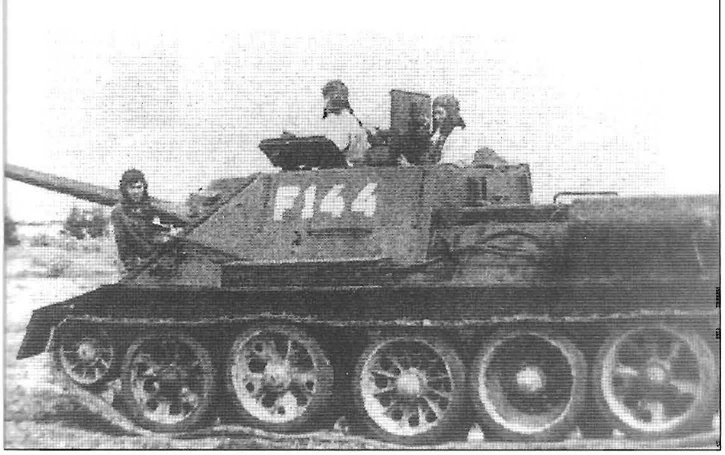
During the 1972 offensive, the PAVN had occasions to capture a variety of ARVN armored vehicles in running condition. Shown here are an M-48A3, two M-41A3s and three M-113s, grouped together at a provisional depot just north of the DMZ in February 1973. PAVN tankers are closely examining the US-built vehicles. Note the spare wheel attached on the turret of the Patton. (Socialist Republic of Vietnam)



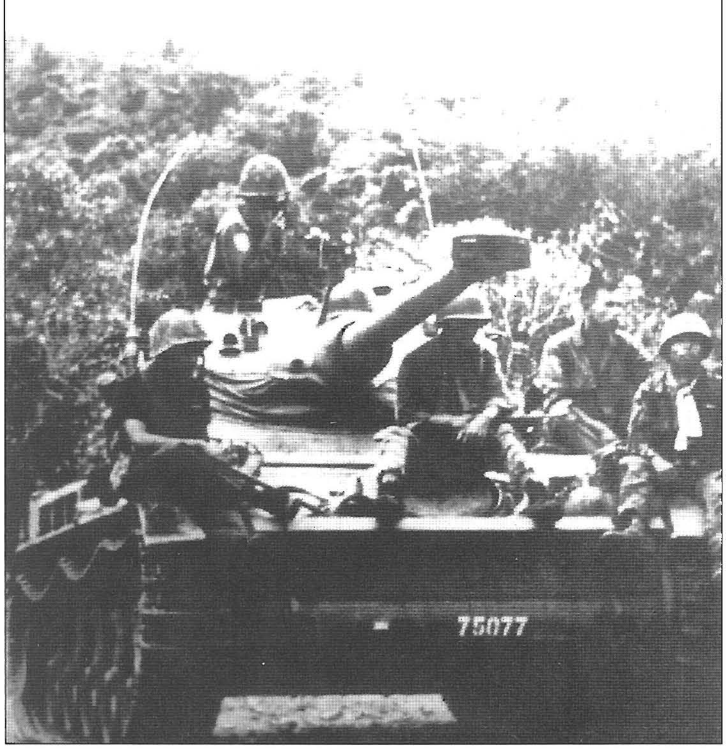
Captured ARVN vehicles are being driven away to a test and evaluation proving ground. The PAVN Armor Directorate put them through stringent tests, comparing their performance to those in North Vietnamese service. The results then obtained allowed them to develop new tactics that were put into use during the 1975 offensive. It is assumed that Soviet and Chinese experts also closely watched over these tests. (Socialist Republic of Vietnam)



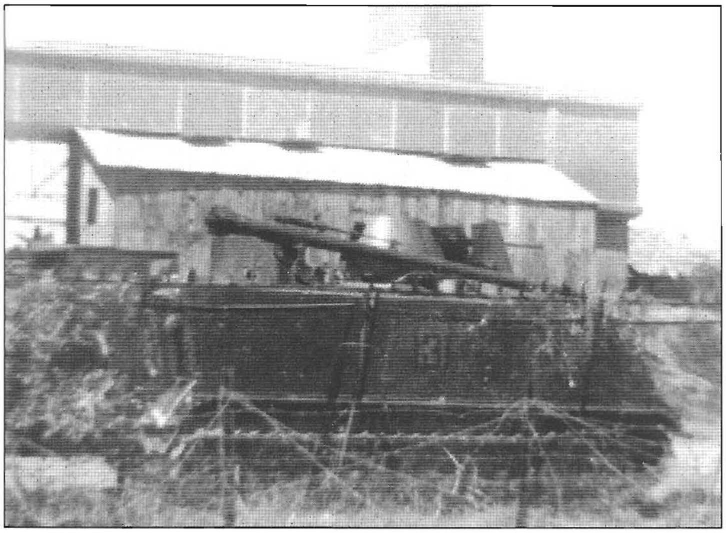
Following the Paris Accord cease-fire implemented on 27 January 1973, the PAVN re-equipped its forces that were deployed in the so-called "liberated areas". With the massive aid of the Soviet Union and China, the battered armored units were reorganized. Among the new equipment received was the Soviet BTR-60PB APC. A platoon of these vehicles is seen here at the Loc Ninh airfield, which was located near the Cambodian border, at a military



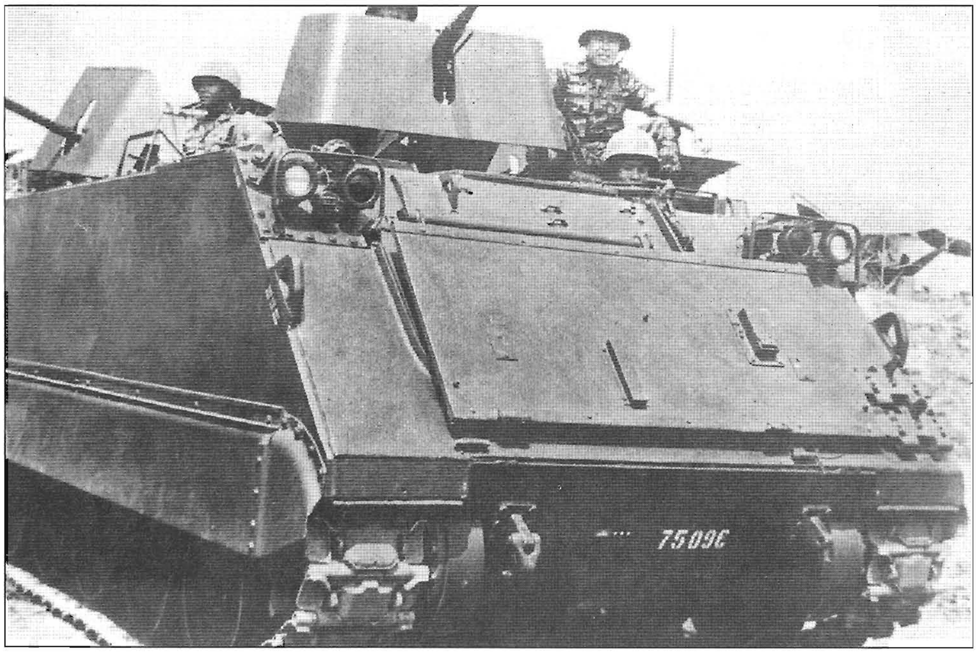
US intelligence sources indicated that the PAVN received some Soviet ISU-122/ISU-152 self-propelled guns and SU-100 tank destroyers to supplement and replace the SU-76. Very little is known about their operational use. The ARVN tankers never encountered them in combat and it was supposed that the PAVN used them only in an infantry support role. This very rare photo shows a North Vietnamese SU-100. Note that the vehicle is equipped with different types of wheels. (Socialist Republic of Vietnam)



A FANK AMX-13 transports a load of infantry. Like the M-24s, the last AMX-13s were withdrawn from service around 1974 since the French government decided to place an embargo on spare parts. (Darasy Var Collection)

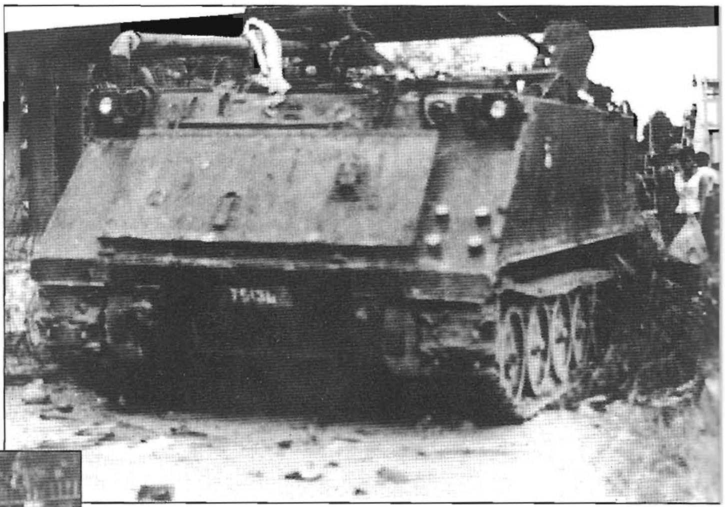


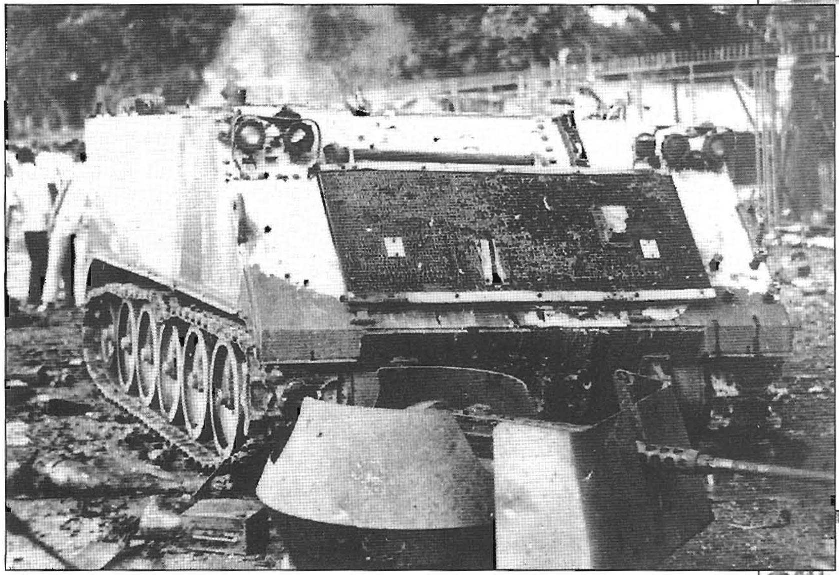
In October 1973, a PAVN Dac Cong special forces commando unit raided the Phnom Penh Olympic Stadium, where an armored vehicle collection was housed. Several Cambodian M-113 APCs were captured by the Communists and driven out into the capital's streets, provoking panic among the inhabitants. It took several hours for the FANK, with the help of the Khmer Air Force, to knock them out. This M-113, which is armed with a 106mm SR gun, was stopped just after it left the stadium compound. (Darasy Var Collection)



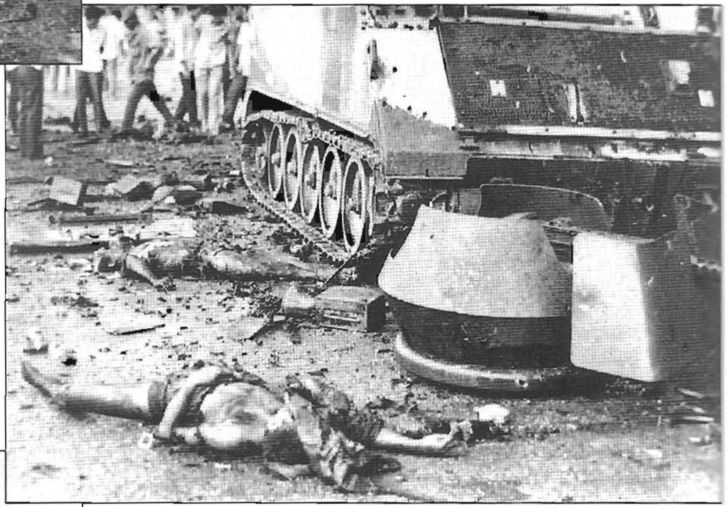
In 1973 the FANK began to receive the first M-113 APCs that would replace all the other armored vehicles then in service. This vehicle belonged to the first squadron of the I Armored Brigade that had received the M-113. Note the Khmer Republic flag painted on the front of the hull by the vehicle identification number. (Darasy Var Collection)

This FANK M-113 was also captured by the North Vietnamese raiders, who took asylum in it under a bridge. After engaging the Khmer soldiers, the PAVN troops fled and abandoned the vehicle. The APC is armed with a 106mm SR gun and .30 caliber machine guns on both side. Strangely, it lacked the frontal turret with the .50 caliber heavy machine gun. (Darasy Var Collection)

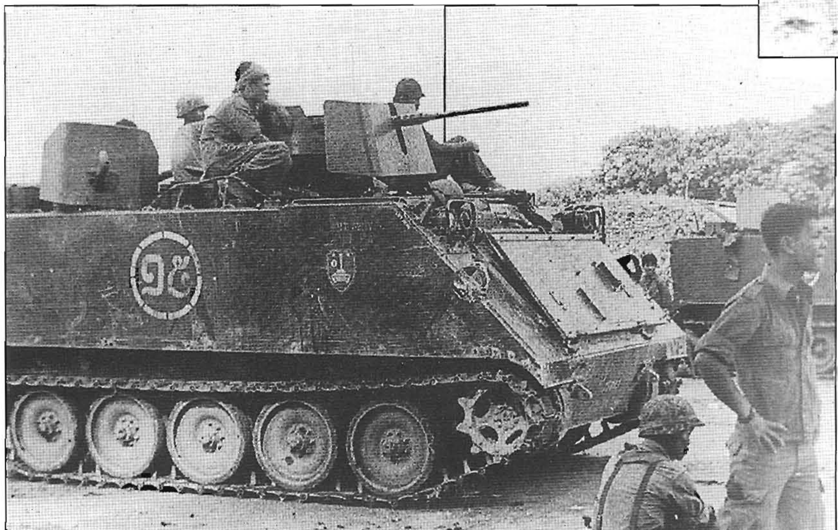




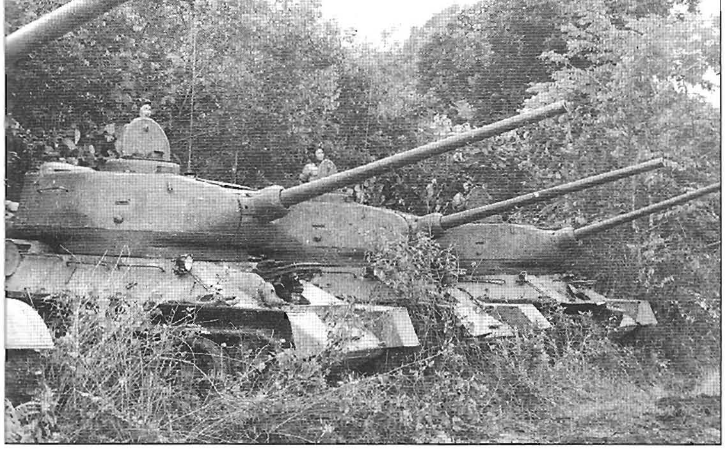
Another FANK M-113 that was stolen by the PAVN sappers. It was disabled by a Khmer Air Force AC-47 gunship, which started a disastrous fire that blew up the .50 caliber heavy machine gun turret. (Darasy Var Collection)



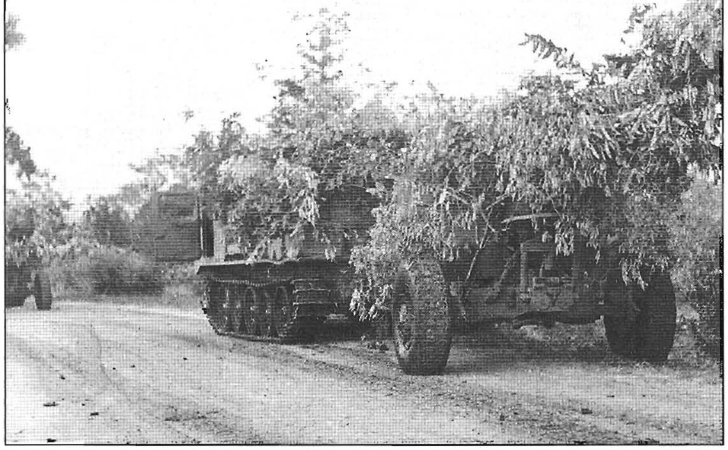
The bodies of these PAVN sappers were removed from the burned-out hull of the M-113 APC and publicly exposed to the view of the inhabitants of Phom Penh. For several hours, the captured M-113s created a wide-scale panic and consternation in the populous streets of the capital of Cambodia. Scenes like this are a blunt reminder of the brutality of the war in Cambodia. It is remarkable that the .50 caliber heavy machine gun turret did not seem to suffer much damage. (Darasy Var Collection)



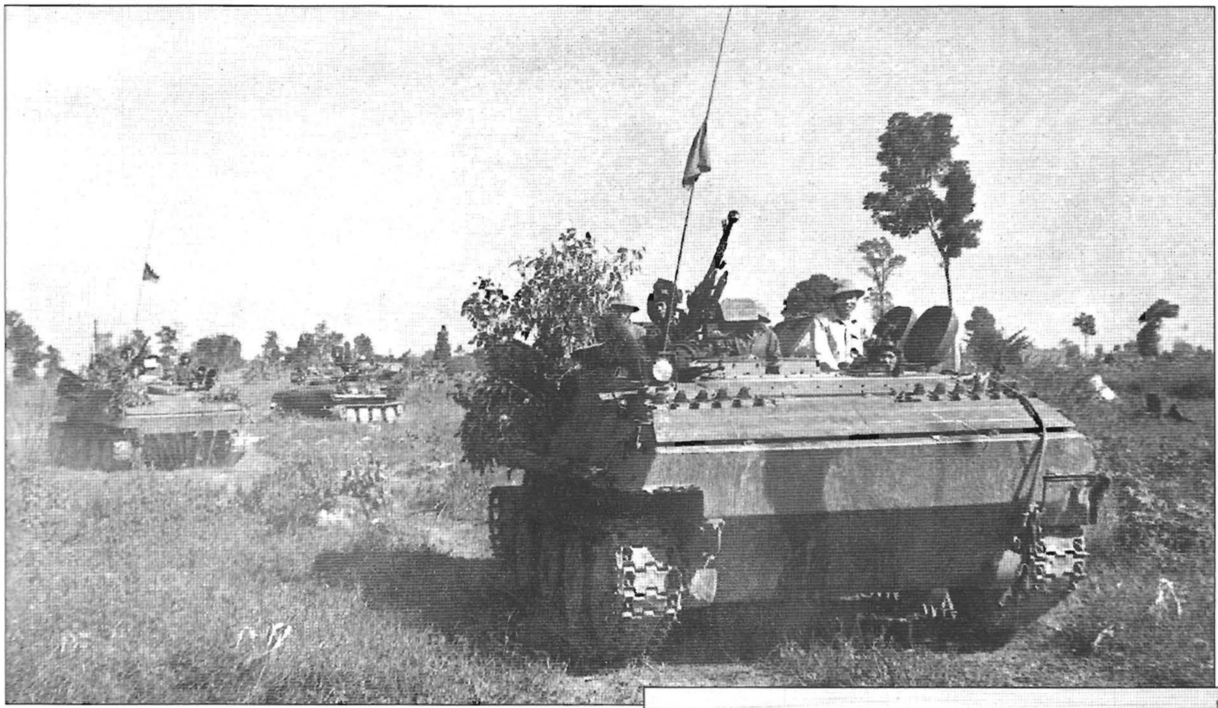
FANK M-113 armored personnel carriers in 1974. At this time, nearly all of the obsolete vehicles in service, including tanks, had been replaced by US-built vehicles. The Khmer



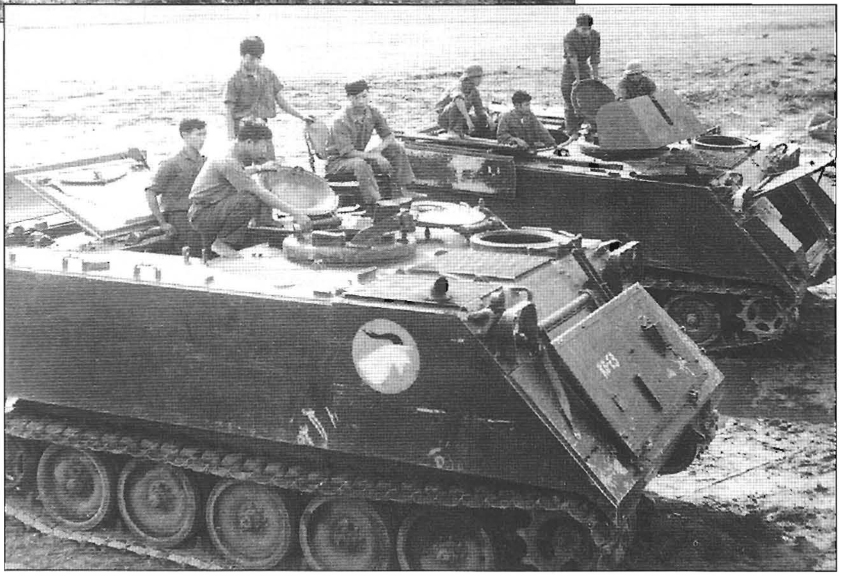
The 1975 offensive began with an attack against Ban Me Thout in the Central Highlands on 10 March. The assault was led by the 273rd Armored Regiment against the airfield on the eastern part of town. The 273rd Armored Regiment had a battalion of T-54As, one of T-34-85s and one of K-63 APCs. The tanks of the units were reviewed before the attack in one of the numerous coffee plantations that surrounded this important provincial capital. (Socialist Republic of Vietnam)



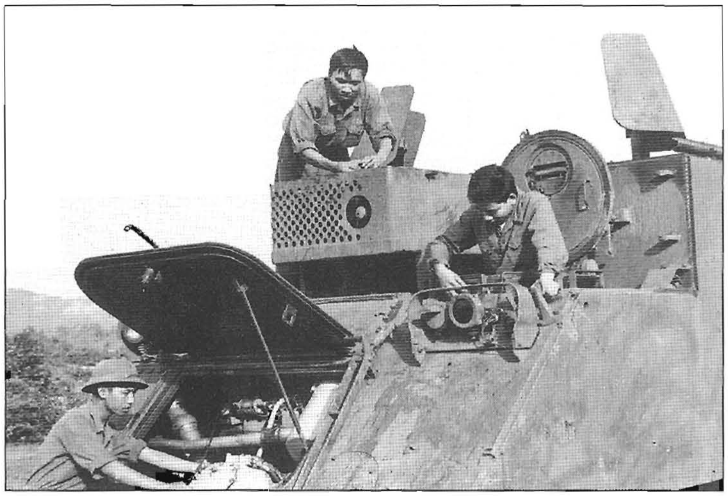
ATS-59G artillery tractors tow a battery of D-74 122mm long-barreled guns into firing position near Ban Me Thout in March 1975. This is a cab-over-engine version of the popular ATS-59 medium tractor. The vehicles were heavily camouflaged in order to conceal them from aerial observation. The widespread use of tracked tractors gave a greater tactical mobility to the PAVN artillery units over their ARVN counterparts, except when the South Vietnamese used CH-47A Chinook helicopters to move their guns. (Socialist Republic of Vietnam)



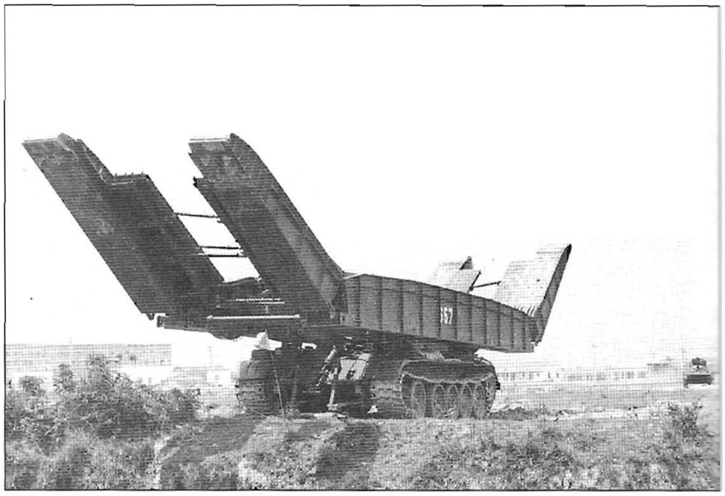
After the fall of Ban Me Thout, the ARVN evacuated the whole II Corps, abandoning the Kontum and Pleiku strongholds. The hastily planned retreat turned into a rout. With the PAVN 273rd Armored Regiment in pursuit, the long, disorganized ARVN column, which mingled with a hundred thousand civilian refugees, fled eastward toward the coastal town of Thuy Hoa. Here K-63 APCs belonging to the unit launch a pursuit with motorized infantry. (Socialist Republic of Vietnam)



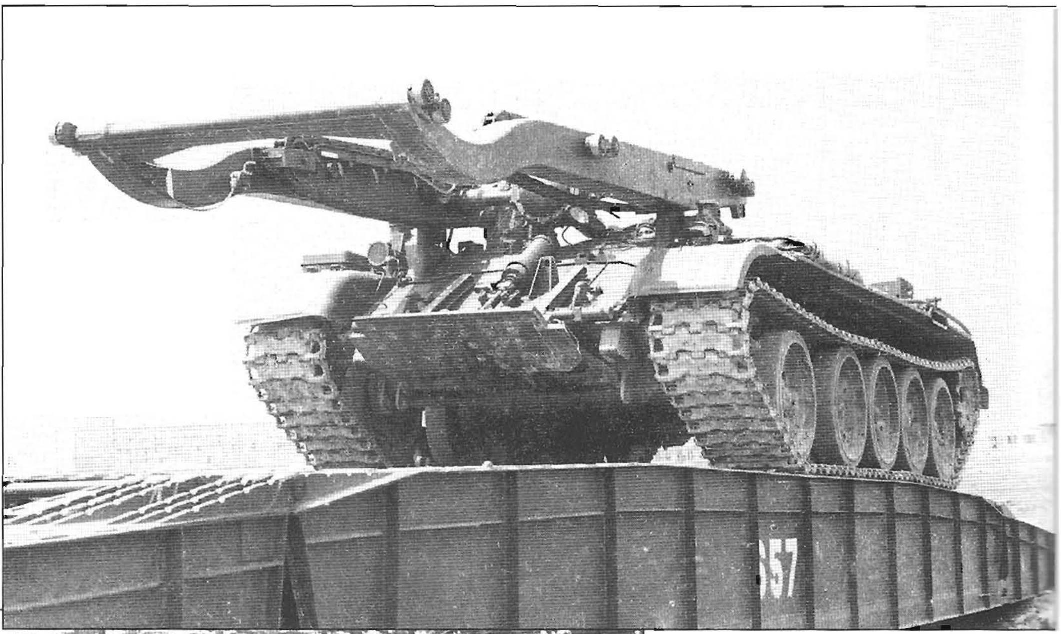
The collapse of the ARVN in II Corps saw the complete destruction of the II Armored Brigade along Highway 7B. The PAVN seized no fewer than 72 tanks, 52 M-113s and 9 M-107 self-propelled guns. The captured vehicles, like these two M-113s, were repaired and quickly put into service with the PAVN. (Socialist Republic of Vietnam)



PAVN mechanics repair a captured ARVN M-577 of the II Armored Brigade. The open hatch in the front of the hull clearly shows the engine compartment of this command vehicle, which is based on an M-113 chassis. Another mechanic works on the air conditioning system on the left side of the driver's hatch. The system is used to cool the numerous communication devices located in the cargo compartment. (Socialist Republic of Vietnam)

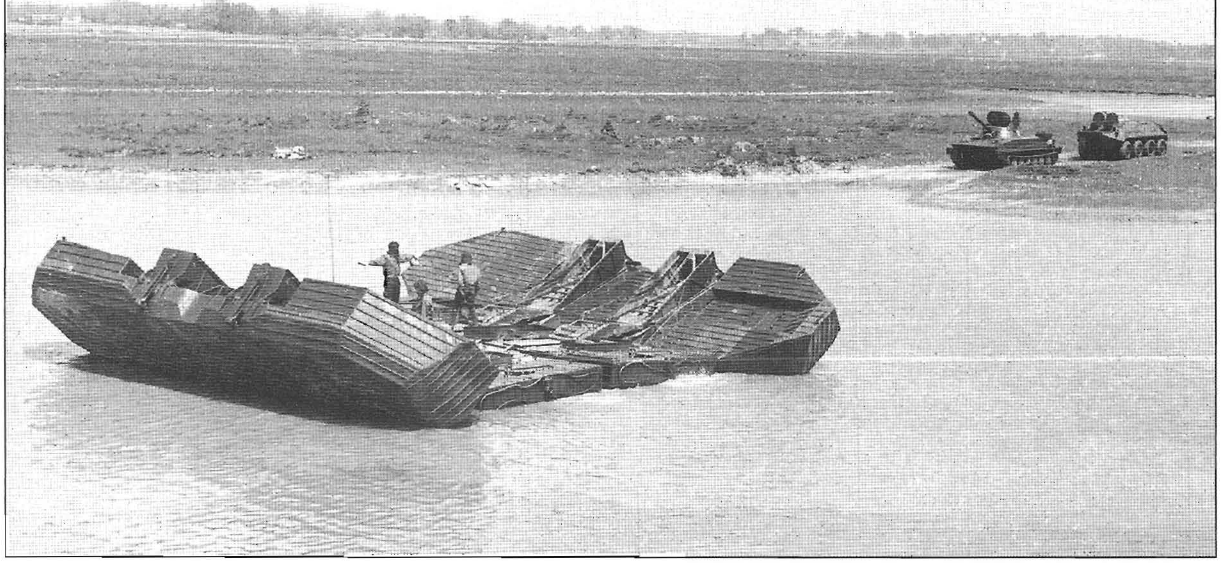


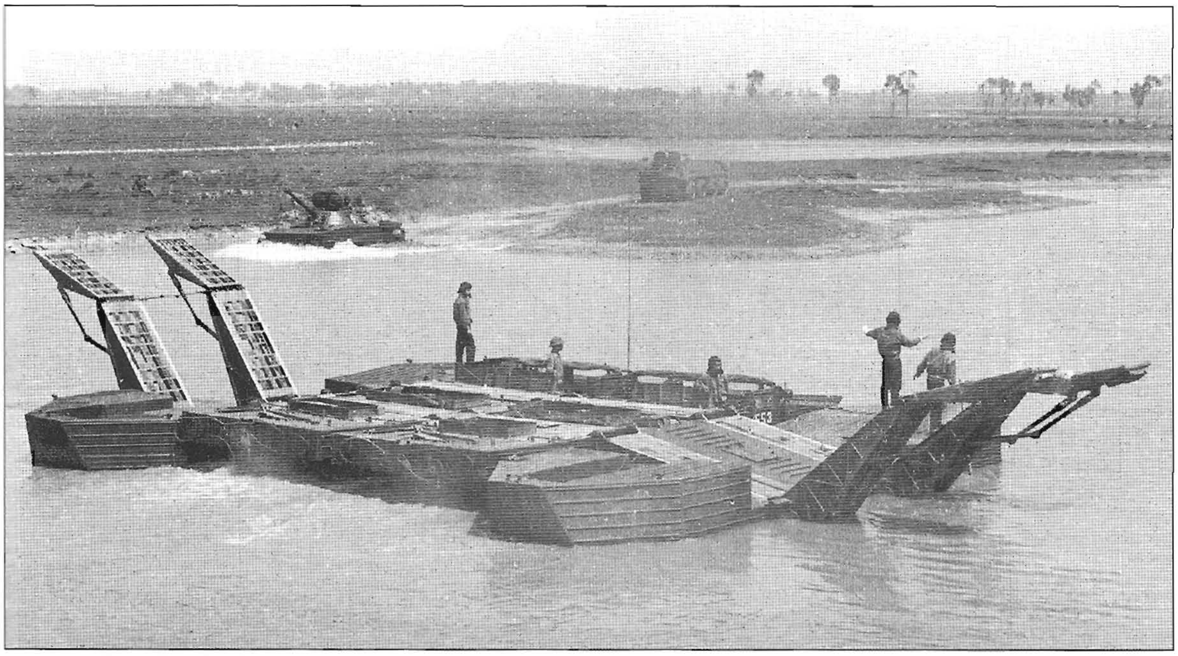
During their retreat, the ARVN troops blew up numerous bridges in order to slow the advance of the North Vietnamese armor. PAVN armored units were equipped with specialized engineer equipment that helped to overcome these obstacles. Covered by a PT-76B tank, an MTU-20 armored bridgelayer unfolds its bridge to span a river. (Socialist Republic of Vietnam



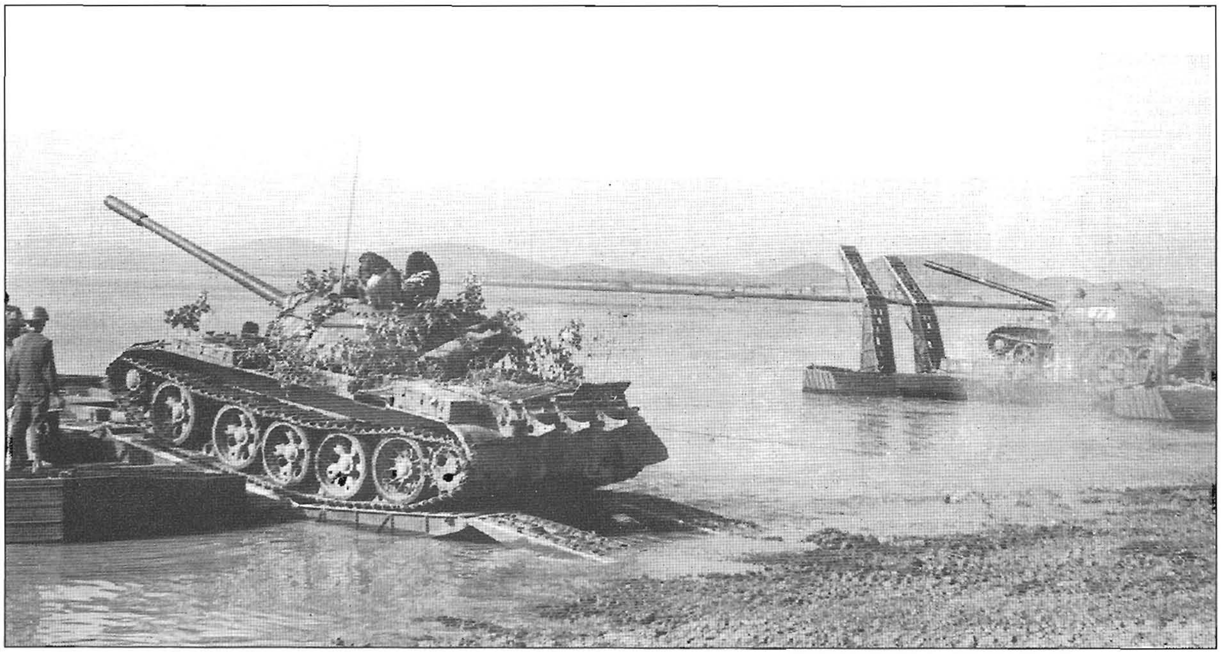
After the bridge is extended, the tractor carrier vehicle, which is based on a T-54 chassis, is the first to cross the obstacle. The vehicle could lay an 18-meter (20-yard) bridge in less than three minutes. When it came to engineer equipment, the PAVN had a clear superiority over the ARVN armored units. (Socialist Republic of Vietnam)

After the collapse of the ARVN II Corps in the Central Highlands, the catastrophic decision to abandon the northern part of South Vietnam at the end of March 1975 created chaos and panic at Hue and Da Nang. The evacuation by sea of Da Nang turned into a rout. The fall of Da Nang happened so quickly that it took the North Vietnamese Joint General Staff by surprise. The 2nd Army Corps, which had committed to take the city with its huge military bases and airfields, did not even have time to engage its attached 203rd Armored Brigade. At the time the only available armored asset was the 574th Armored Regiment directly attached to the Quang Tri-Tri Thien Front. On 17 March 1975, the T-54Bs of the 574th Armored Regiment drove virtually unopposed vehicles to carry men or equipment in a country crisscrossed by waterways and marshlands. The main vehicles were the ZiS-485 amphibious truck and the K-61 amphibious tracked transporter. However, the most versatile was probably the GSP mechanized ferry, which was capable of transporting a medium tank across a body of water. (Socialist Republic of Vietnam)



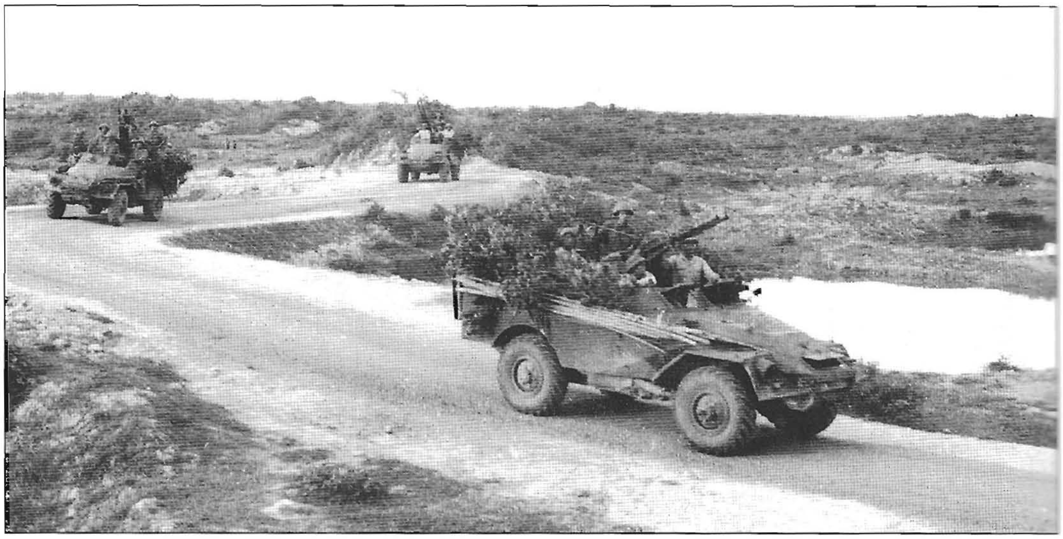


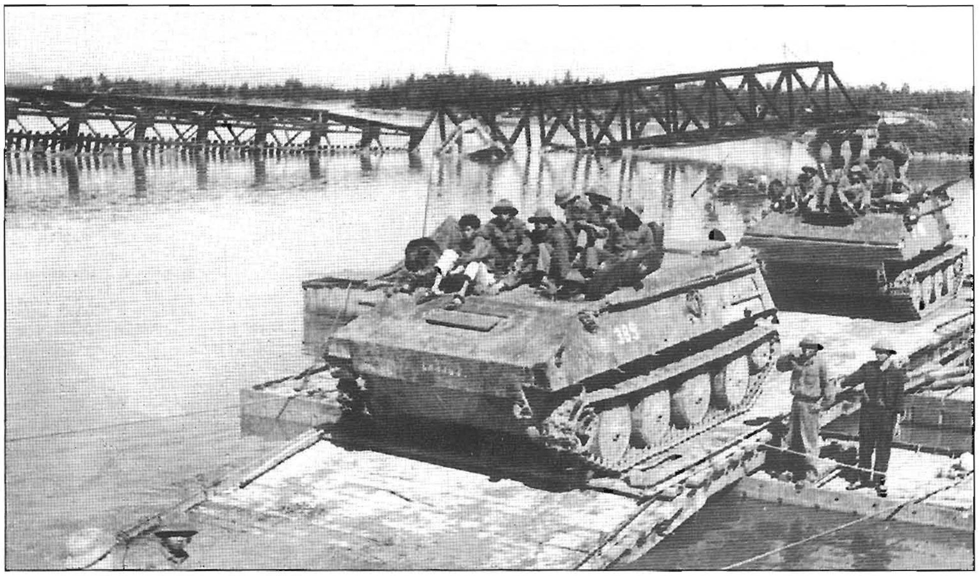
Operating procedure for the GSP required two vehicles to be tied together while each of them deployed the flotation roof that rested beside the vehicle's chassis. The access ramps were then lowered to allow the tank to roll onto the two assembled vehicles. (Socialist Republic of Vietnam)



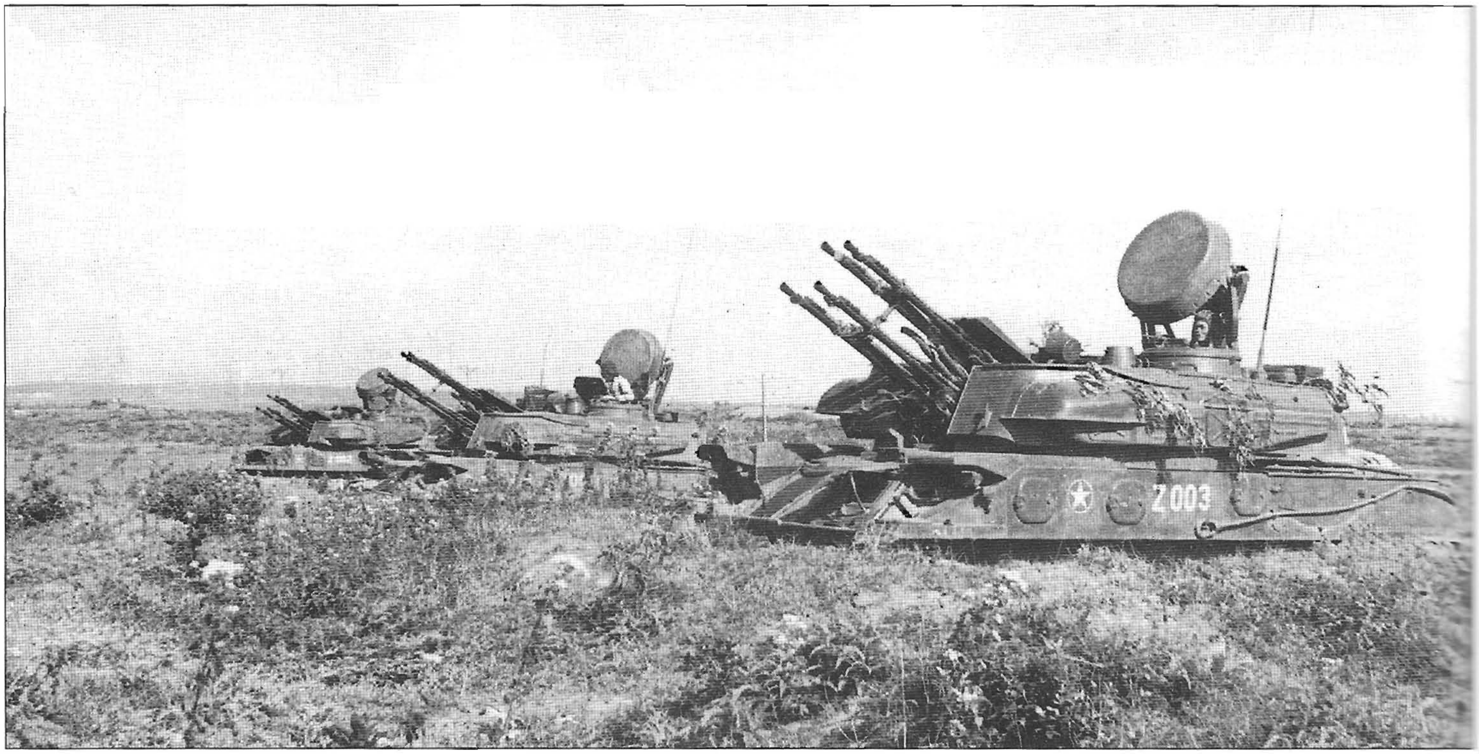
T-55s roll over GSP motorized rafts to cross a river. In 1974 the PAVN received a small number of T-55s. They marked an improvement over the T-54 with their more powerful engine and an increase in ammunition to 43 rounds. (Socialist Republic of Vietnam)

A trio of BTR-40A anti-aircraft vehicles on patrol near the coastal town of Nha Trang in early April 1975. At this stage of the PAVN offensive it was not unusual to send BTR-40A vehicles on scouting missions ahead of the tank units. (Socialist Republic of Vietnam)

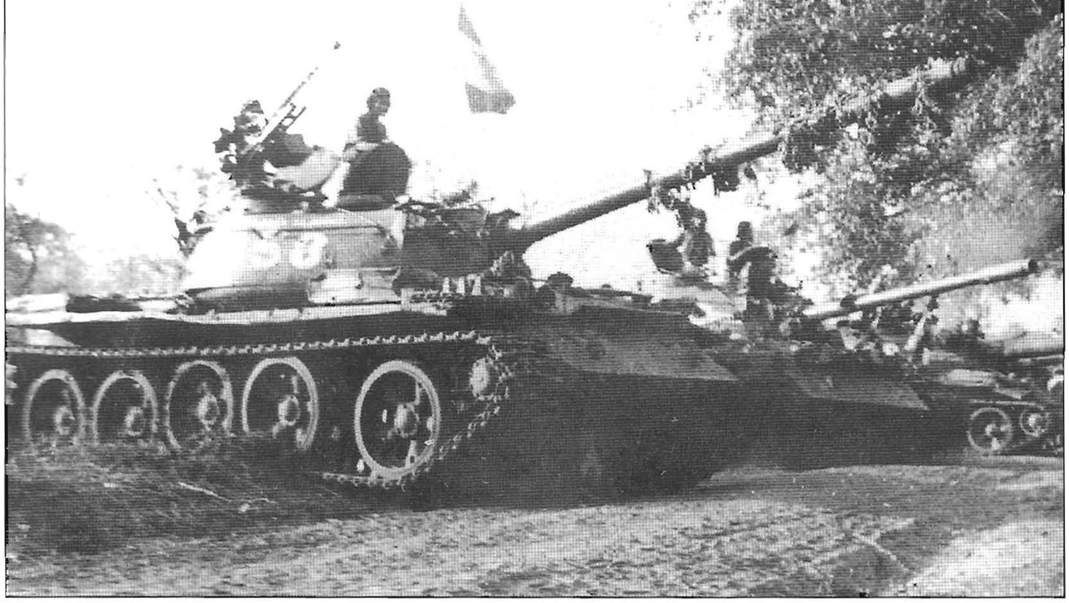


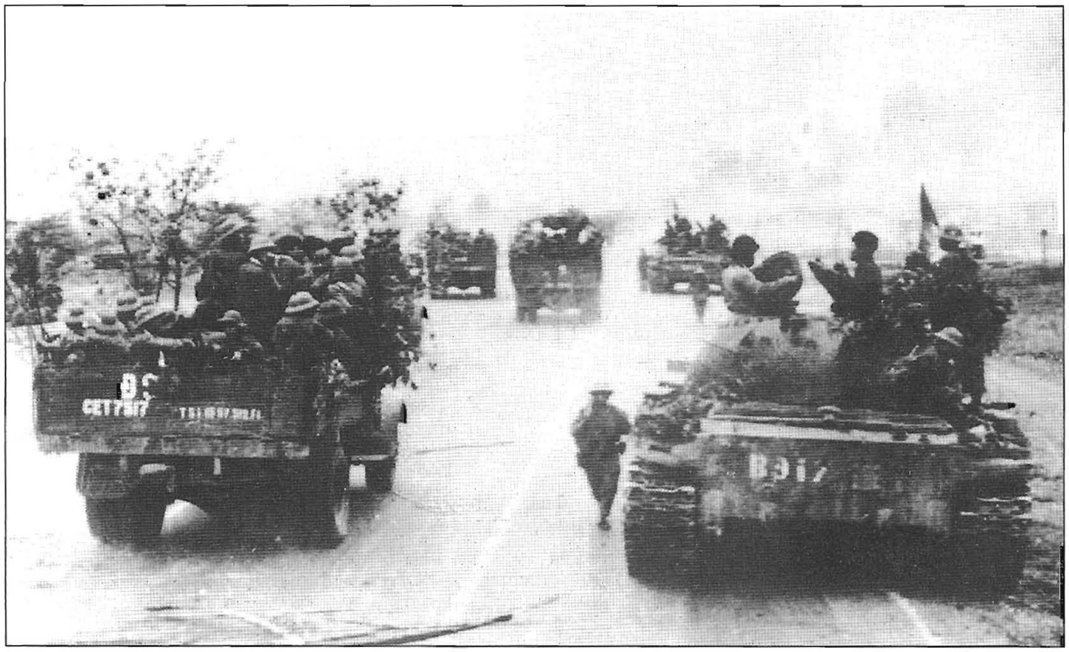


By mid-April 1975 the PAVN had committed four army corps and no less than 29 armored battalions to the Ho Chi Minh campaign. The armored units played a key role in the quick collapse of the last ARVN positions defending Saigon. Here we see two K-63 APCs embarking on a barge to be ferried across a river — an unusual operation considering that both types of vehicles are amphibious. Curiously, the APCs are not armed with the usual DShK 12.7mm machine gun. (Socialist Republic of Vietnam)



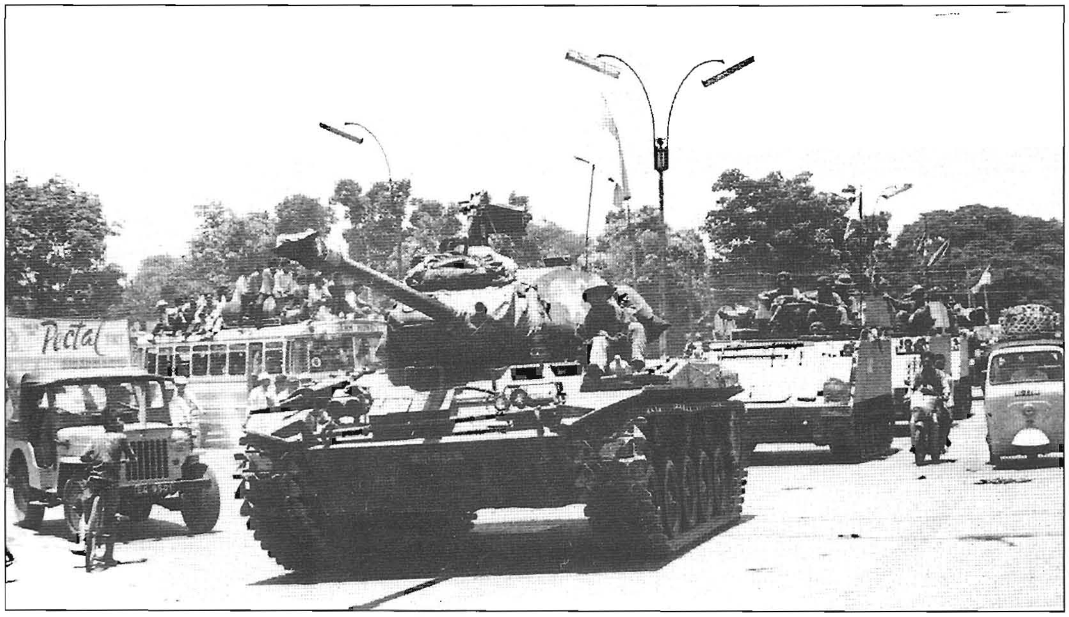
against Xuan Loc in mid-April 1975. Xuan Loc was the last important battle of the Vietnam War. For nearly three weeks the ARVN 18th Division, supported by the I Armored Brigade, held this city, which was located northwest of Saigon. ARVN tankers claimed more than fifty North Vietnamese tanks. (Socialist Republic of Vietnam)

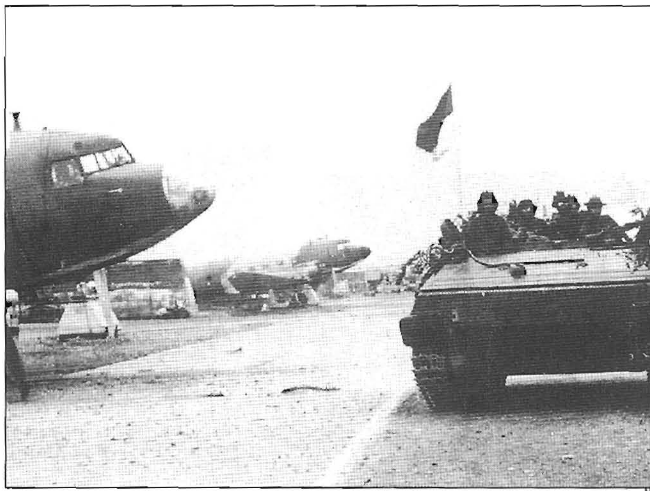




With tanks and infantry mounted on trucks combining to make a mobile task force, the advance on Saigon continued unabated. In 1975 the PAVN made a lot of progress in the combined-arms operations, deploying large and fully motorized army corps that were able to maintain a rate of advance of 50 kilometers (31 miles) a day. (Socialist Republic of Vietnam)

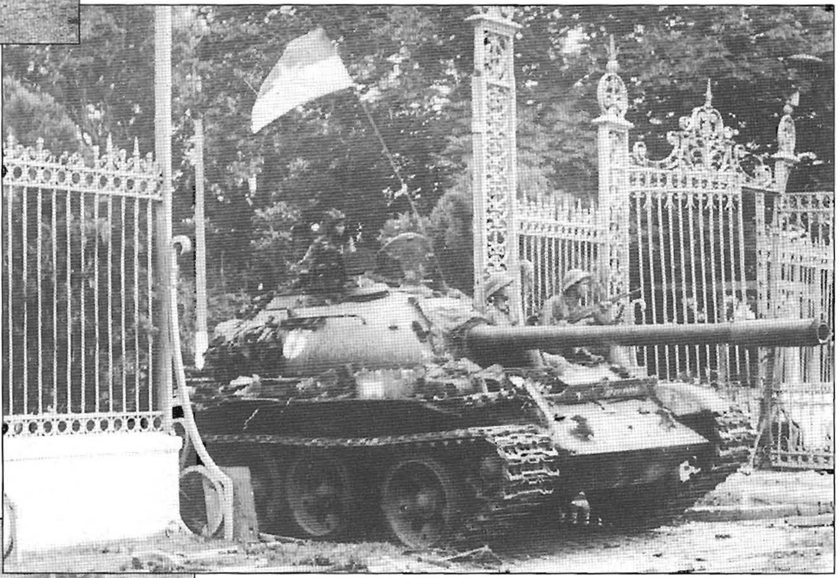
On the morning of 30 April 1975, the first PAVN tank columns entered Saigon from five different axes. The newly appointed Neutralist "Third Force" government of South Vietnam had just broadcast over the National Radio the order to the ARVN units to unconditionally cease fighting and to surrender. In this shot PAVN M-41A3s and M-113s mingle with local traffic as they enter Saigon. The captured South Vietnamese vehicles equipped independent armored companies that were directly attached to specific infantry units in order to increase their mobility and firepower. North Vietnamese insignia are painted prominently on the turret of the tank to protect them from taking friendly fire. (Socialist Republic of Vietnam)

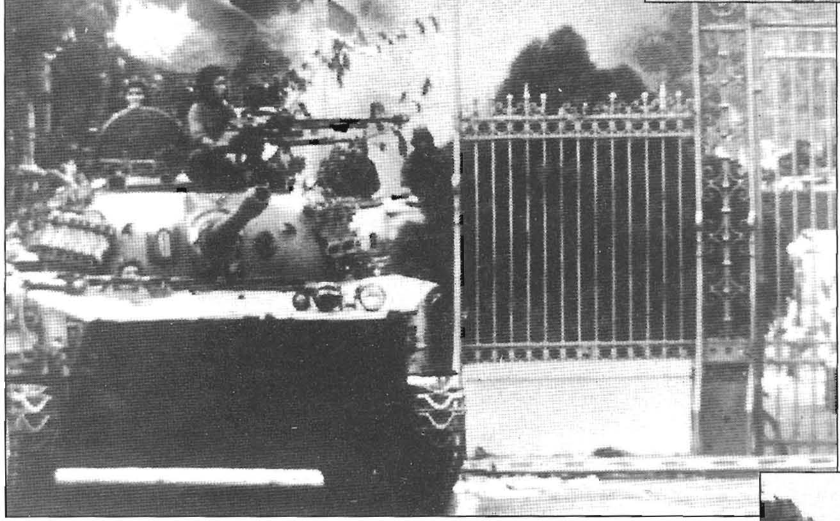




The last significant resistance encountered by the PAVN armored units was at Saigon's Tan Son Nhut airport. Supported by VNAF gunships, South Vietnamese paratroopers fought valiantly to the end. Here a K-63 APC passes by some VNAF EC-47 electronic warfare aircraft. (Socialist Republic of Vietnam)

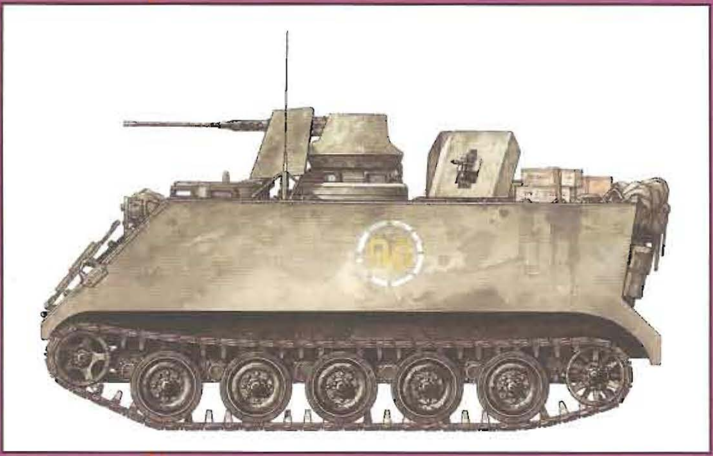
On 30 April 1975, at 12:15 p.m., PAVN T-54B number '833' of the 202nd Armored Brigade crashed through the gates of the South Vietnam Presidential Palace. A war that began with guerrilla action ended in the clash of tracked vehicles. (Socialist Republic of Vietnam)





This Type 63 tank belonging to the PAVN 202nd Armored Brigade is crashing through another entrance gate of South Vietnam's Presidential Palace. The vehicle is fitted with additional tracks around the turret and on the front of the hull in order to increase protection against ARVN M-66 LAW anti-tank rockets. (Socialist Republic of Vietnam)

High ranking ARVN officers are led into captivity by the men of the 202nd Armored Brigade in the garden of the Doc Lap Presidential Palace. Note the Type 63 tank crammed with troops in the background. (Socialist



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